

21ST CENTURY MILL VILLAGE

-UPDATING THE HISTORIC MILL VILLAGE CONCEPT
TO CREATE VIBRANT URBAN LIFE AROUND THE REPURPOSED MILLS.

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HEIDI-MARIA NYBLÖM

MASTER'S THESIS
TAMPERE UNIVERSITY OF TECHNOLOGY
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2017



TAMPEREEN TEKNILLINEN YLIOPISTO
TAMPERE UNIVERSITY OF TECHNOLOGY

Heidi-Maria Nyblom

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Master's Thesis

Examiner: Professor Markku Hedman
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Arkkitehtuurin koulutusohjelma

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2000-luvun tehdaskylä on alkuperäisten tehdaskylien päivitetty versio. Tehdaskylät suunniteltiin alunperin tarjoamaan tehdastyöntekijöille asuntoja lähellä tehdasta, jotta heille jäisi enemmän aikaa töille sekä vapaa-ajan aktiviteeteille. Tehdaskylät olivat eloisia kun tehtaat olivat toiminnassa, mutta kun valmistus siirrettiin globalisaation johdosta ulkomaille edullisemman työvoiman perässä, suurin osa näistä tehtaista jäi hylätyiksi ja elintaso köyhtyneissä kylissä aleni työpaikkojen lähdettyä.

Tämä diplomityö ehdottaa ratkaisua, jossa alkuperäinen tehdaskylä -konsepti otetaan uudelleen käyttöön päivitettyinä luoden eloisia urbaaneja yhteisöjä kunnostettujen tehtaiden ympärille. Suunnittelukohteena ja toimeksiantajana toimii "Taylors Mill redevelopment" yhtiö, joka operointipaikkana on Taylors Mill -tehdas Taylorsissa, Yhdysvaltojen Etelä-Karoliinassa. Suunnittelualue sijoittuu lähiöalueelle Greenville kaupungin (Etelä-Karoliina, USA) läheisyyteen. Taylors Mill on nousemassa ylös vuosien rappioutilasta, mutta sitä ympäröivä tehdaskylä ei ole vielä ottanut osaa tähän kehitykseen.

Tämän päivän moderni työntekijä Taylors Mill alueella on nuori ammattilainen/ artisti// yrittäjä/ etätyöntekijä, jolla ei yleisesti ole suurta perhettä. Nämä työntekijät etsivät pientä asuutilaa, missä heillä on yhteys ja jaetut kokemukset heitä ympäröivän yhteisön kanssa. Tämän vuoksi, jaettujen toimintojen sekä minimalistisen asumisen yhdistäminen kyläyhteisössä tarjoaa heille sen yhteisöllisen asuinympäristön, jota he ovat etsimässä -- 2000-luvun tehdaskylän.

Diplomityö tarjoaa konseptisuunnitelman uuden tyyppiselle asumiselle, jossa yhdistetään elementtejä urbaanin sekä maaseudun elämäntavoista, ja jossa asukkailla on pieni yksityinen asuutila jaetun yhteisön keskellä. Tämä uudenlainen asumisen ja yhteisön muoto saadaan aikaiseksi käyttämällä modulaarista rakennusjärjestelmää suunnittelun apuvälineenä - tarjoten joustavia sekä kohtuuhintaisia asumisratkaisuja ja erilaisia asutontyyppejä erilaisille perheille ja tarpeille.

abstract

TAMPERE UNIVERSITY OF TECHNOLOGY
Degree Programme in Architecture

Nyblom, Heidi-Maria: 21st Century Mill Village - Updating the historic mill village concept to create vibrant urban life around the repurposed mills

Master of Science Thesis, 164 pages, June 2017
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The mill village of the 21st-century is a new take on the original concept of a mill village. The mill village was originally intended to provide a home for workers close to the factory so that they could be nearby work and devote more of their time to work, while having leisure activities in their free time. Mill villages were vibrant and self-sufficient while the factories were operational but after the production was moved overseas following cheaper labor due to globalization, most of these factories have been abandoned and quality of life in the impoverished mill villages has went away with the jobs.

This thesis is proposing a solution to revitalize and update the original mill village -concept to create vibrant urban communities around the repurposed mills. The case example and commissioner of this thesis is Taylors Mill redevelopment company operating in the Taylors Mill in Taylors, South Carolina, USA. The site is located in the suburbs nearby Greenville, South Carolina, USA. The mill is in the process of bouncing back from years of dilapidation, but the mill village has not yet reciprocated in this revitalization.

The modern day worker in the Taylors Mill is more of a young professional/artist/entrepreneur/satellite worker who does not generally have a big family. They're looking for a small living space where they have a connection and shared experience with the community around them. Because of this, sharing common amenities and having minimalist housing in a community/village setting will provide these people the community that they are looking for -- 21st century mill village.

This thesis provides concept design for a new type of living where urban and rural lifestyles are mixed and people have a small private living space within a shared community. This new type of housing and community is achieved by using modular building system as a design tool - providing flexible and affordable housing options and different housing typologies for different families and needs.

terms

VIBRANT

As a term for describing urban life, Vibrant means cultured and eventful. Vibrant urban life is city life that is well connected to both the spaces and people around. Vibrant urban life can be achieved through high quality shared spaces, events, and community gatherings.

REPURPOSE

Repurposing the act of remodeling a structure for a purpose other than the one it was originally intended for.

REVITALIZE

Revitalize means to bring vitality back to something, or bring life back to it. The mill villages have been all but abandoned for the last 20 years, this concept aims to bring vibrant urban life back to the villages.

MILLHANDS

Millhands is a term used to describe the laborers of the mill They were the hands needed to keep the mills moving and keep churning out fabric.

MILL

" a building or collection of buildings with machinery for manufacturing" (Merriam-Webster dictionary) For the purposes of this thesis, the term Mill is referring to the textile mills of the Piedmont region. These mills created fabrics and yarn from raw cotton.

SUBURB/ BEDROOM COMMUNITY

A small community that has no major industries and that is inhabited by people who go to another place to work, shop etc"

KNOWLEDGE WORKER

Where the common man during the heyday of the textile mills was often a mill worker, or laborer, todays mill village inhabitant would be a knowledge worker, someone who works with their brain rather than their hands. Some examples of this could be accountants, lawyers, designers, programmers, architects, writers, journalists, etc. Knowledge workers are often people who have studied at a university.

FOOT - METER CONVERTER

Since this thesis project takes place in the United States, the local units of measure will be used in the project as well as the metric system. For the purpose of understanding the imperial measurement system, One foot equals 0.3048 Meter.

MILLENNIALS

Millennials are anyone that were born between the early 1980s and early 2000s

SHARING ECONOMY

The sharing economy is the new paradigm popular among young people where Having access to a service or amenity has the same value as owning that service or amenity. This has been born out of increasing environmental consciousness and limited space in growing cities.

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INTRODUCTION

HISTORY & BACKGROUND

- **RISE**
OF MILL VILLAGES IN
THE AMERICAN SOUTH
- **FALL**
OF MILL VILLAGES AND
SUBURBAN SPRAWL
- **INFORMATION AGE AND
THE URBAN
REVIVAL**

CONCLUSIONS FOR THEMES

THEMES FOR ARCHITECTURAL CONCEPTS

- **THE URBAN VILLAGE**
- INTEGRATING URBAN LIFESTYLES
INTO A RURAL SETTING
- **THE NEW MILL**
- A HUB TO ACCOMMODATE
THE DIGITAL AGE WORKER

CONCLUSIONS FOR CONCEPT DESIGN

CONCEPT DESIGN - 21st Century Mill Village

INTRODUCTION & SITE ANALYSIS

MASTER PLAN

- | THE MILL | THE VILLAGE |
|---|---|
| ● REPURPOSED MILL
BUILDING AS
THE CORE OF THE HUB | ● MODULAR BUILDING
CONCEPT AS A DE-
SIGN TOOL |
| ● PUBLIC SPACES &
CONNECTIONS | ● NEW HOUSING AREA
AND SHARED SPACES |
| | ● HOUSING
TYPOLOGIES |

REFLECTIONS

1
INTRODUCTION

In this chapter, the starting points and motivation for this thesis topic is explained along with the aims and goals for the project.

prologue

I came across this topic due to equal parts coincidence and passion for how architecture can influence and be influenced by the way people live. For the past year, I've been living in Greenville, South Carolina, working on custom home designs while looking for a suitable master's thesis topic. At some point it became clear that I was surrounded by design problems in this largely suburban town that wants to become a city, and that the best place to look for a thesis project would be right in my "back yard". One of the biggest design problems in the area in my experience was the lack of different types of housing options; finding more practical, smaller scale housing options in a somewhat urban or community oriented environment seems to be impossible in the area devoted to single family home - neighborhoods.

I first heard about the Taylors Mill while visiting a coffee shop that opened up in the old factory building and became better acquainted when I heard more about the repurposing project. The movement to turn this ugly, abandoned old building and its surroundings into something valuable, and especially something that this community desperately needed had me immediately intrigued.

Since the cultures can be so different in different countries, so can be current phenomenons and trends. Because of that fact, this thesis may seem removed from current trends in Finland; architecturally, culturally, and ecologically. In that realization lies the beauty of design and architecture: my different cultural background and knowledge gained from experience both in Finland and in Upstate South Carolina allow me to provide a completely new perspective on complex issues being faced here.

aims & goals

This thesis is proposing a solution to revitalize and update the original mill village concept to create vibrant urban communities around the repurposed mills. The case example and commissioner of this thesis is Taylors Mill redevelopment company operating in the Taylors Mill in Taylors, South Carolina. The site is located in a semi-rural area, in the suburbs of Greenville, South Carolina.

This thesis aims to provide a new concept for an urban village in these semi-rural settings around repurposed mills. The new mill village will be created to reflect today's urban and suburban lifestyles and provide solutions to the many problems facing suburban life today. The thesis will also provide a concept for a new urban hub within the repurposed mill. The hub will be in place to accommodate the needs of the digital age workers who will work in the repurposed mills. The overall concept will provide a community that enhances the lives of those inhabiting it through closer relationships with their neighbors, shared spaces, and new amenities.

The Mill Village of the 21st Century concept will draw cues from the original concept of the mill village, created after the industrial revolution to provide housing for the mill workers. The original concept is rooted in the close ties between living and working, a connection that has only grown stronger over the years, as industries have changed and the way we work has changed. The thesis will update that concept and make it once again relevant in a time when the mill villages have largely fallen into disrepair. The concept is meant to be adaptable not only in the thousands of mill villages in the United States and around the world, but around any derelict industrial property where there is plenty of space and a need for vibrant urban life.

2.1

RISE OF MILL VILLAGES IN THE AMERICAN SOUTH

2.2

FALL OF MILL VILLAGES AND SUBURBAN SPRAWL

2.3

INFORMATION AGE AND THE URBAN REVIVAL

2.4

CONCLUSIONS FOR THE THEMES

2 HISTORY & BACKGROUND

The first part of this chapter introduces the background of the American south and the rise and fall of the textile industry. This is when the original mill villages were formed and it's important to know the backgrounds of them in order to reimagine the mill village concept.

The second part of this chapter is introducing some phenomenons that have led to today's lifestyle - introduces possible problems in current housing design and explaining why there is a need for new type of living options.

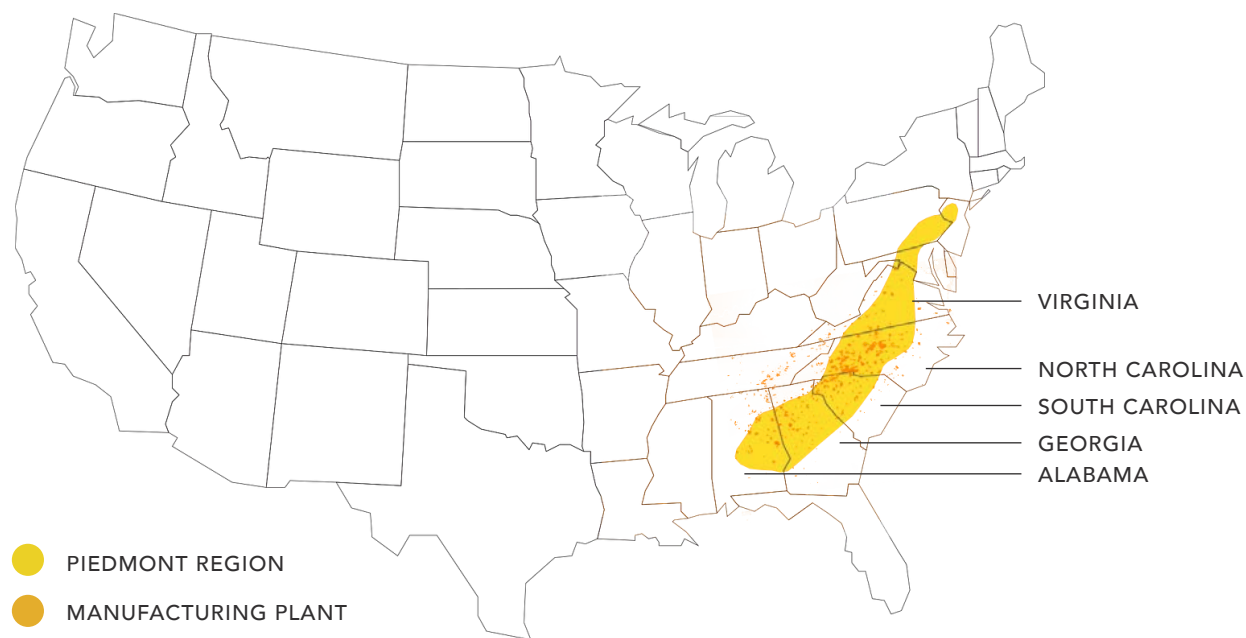


IMAGE 1. LOCATION OF TEXTILE MILLS IN PIEDMONT REGION, 1931.
OWN ILLUSTRATION BASED ON: B.F. Lemert, The Cotton Textile Industry of the Southern Appalachian Piedmont. 1933.

2.1 RISE OF MILL VILLAGES IN THE AMERICAN SOUTH

In the American south, during the late 1800s and early 1900s, A move of the textile industry from the industrialized northeast to the southeast where milder climates meant cheaper labor, led to many farmers leaving their farms for work in textile mills. It was customary that the companies would provide housing for the workers and their families nearby the factory, since these factories were often placed in areas where adequate housing was not present, and thus the mill villages of the south were born.

2.1.1 RISE OF TEXTILE INDUSTRY IN THE SOUTH

2.1.2 LIFE IN MILL VILLAGES

2.1.2.1 Village community

2.1.2.2 Mill houses

2.1.2.3 The American front porch



IMAGE 2: High Point, North Carolina - Housing. Homes In Company-Owned Mill Village Of Pickett Yarn Mills - High Point, North Carolina

2.1.1 RISE OF TEXTILE INDUSTRY IN THE SOUTH

During the time after the civil war, the south had long been established as one of the strongest cotton producing areas in the world. This, coupled with lower costs of living in the South led industrialists from the heavily industrialized North East to look to the south as a place for not only growing, but processing Cotton. This trend caught on quickly and by 1933, over 75% of South Carolina’s workers were employed at Textile Mills. [1]

It wasn’t just South Carolina, though. Textile Mills started popping up throughout the en-

tire Piedmont region. The Piedmont region reaches from southern Virginia through the central Carolinas and into northern Georgia and Alabama. It is characterized by it’s hilly landscape in the foothills of the Appalachian mountains, crossed by many strong rivers, perfect for powering the mills. The area was largely agrarian prior to the late 1800s due to its suitable landscape and climate, but by the mid-1920s “this land of farms and farmers had been crisscrossed by railroad tracks and dotted with mill villages”. [2]

1 Jamieson 2010
2 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987: xvii

TEXTILE INDUSTRY IN SOUTH CAROLINA

The upstate region of South Carolina is part of the Piedmont, where the northern textile industry settled in the late 1800s. Textile manufacturing began in South Carolina before the American Civil War in 1861, but it became important to the economy of the state after the war and by 1880, the industry was producing almost \$3 million worth of goods a year. “For many years, textile manufacturing was measured by the number of spindles,

or rods on which thread was gathered, in a mill. In 1880, South Carolina had eighteen textile mills operating with 95,983 spindles.” [3] The industry grew steadily up until after the second World War, during the post-war boom, when the state’s industry doubled, between the years 1947 and 1967, To include over 400 Mills. [4]

3 Horne 2006
4 Jamieson 2010



Fig. 42. Three-Room House. Cost \$350



Fig. 39. Five-Room Narrow House. Cost \$450



Fig. 41. Three-Room House. Cost \$300



Fig. 37. Four-Room Gable House. Cost \$400



Fig. 33. Three-Room Gable House. Cost \$325



Fig. 35. Three-Room Narrow House. Cost \$325

IMAGE 3. ORIGINAL MILL HOUSES. Tompkins 1899

2.1.2 LIFE IN MILL VILLAGES

"Kinship and a common culture knit hundreds of individual mill communities into an elaborate regional fabric that provided workers with a shared identity and a hedge against poverty and management control." [5]

5 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987: xxiv

2.1.2.1 VILLAGE COMMUNITY

The village communities were formed not only because it was customary in the old mill villages of industrialized New England, but also out of necessity; due to the undeveloped nature of the towns that these newly-built factories occupied. The large majority of mills in the Piedmont region were in relatively rural areas that lacked the infrastructure to house the kind of manpower that was needed to keep these factories working, so villages around the mills were built in order to house the workers and further entice them to join their friends and neighbors at work in these new factories. [6]

Mill villages and the factory houses were owned by the corporations that employed the workers and by 1900, 92 % of textile workers and their families lived in these villages. Besides the housing, mill villages usually included a supervisor’s home, a village school, at least one church, the company store; and often gardens, barns and common

areas. Mills also provided social workers, recreational activities, clubs and often sponsored a variety of small businesses such as barber shops and pool halls. The management worked hard, in some instances, to ensure that the workers never had to leave the village. [7]

People living in mill villages created tight-knit communities using the amenities and activities provided within the village, even attending their own churches and schools, when the mill village was in a city with many other options. These churches and schools were often used by the mill owners to instill the values of hard work in the workers and ensure that the children are trained to pursue a life in the village. [8]

“Millhands brought remnants of their lives on the farm with them and insisted on having gardens, barns for their animals, and chicken coops in the villages. They social-

ized together, often gathering for music and dancing, and helped their neighbors during the difficult times, just as many had done in the rural communities." [9]

Some of the mills even used a system of private money and offered to pay their employees with tokens instead of cash. These tokens did not carry the same value as US currency, which was beneficial to the mill owners since the tokens kept circulating within the village. The mill workers got paid in these tokens by the mill owners and then spent the money in the company store, or on other amenities in the village. The company stores would often have prices competitive to local stores, but the incentive of the store tokens and their ability to offer credit, as well as convenience made them a popular choice with the inhabitants. [10]

It became common, after some time that mill owners required families to supply one

worker for every room that they occupied. At the same time, in the mid-1910s, school wasn’t mandatory for children over 12 years of age. These factors together encouraged young children to start working at the mill at young age instead of getting an education. Mill owners didn’t mind this since many of the children growing up in a mill village and working at the mill ended up also working for the mill owners when they became adults. [11]

"Viewed from the outside, mill villages seemed to deny workers the most basic forms of self-expression. But in muddy streets and cramped cottages cotton mill people managed to shape a way of life beyond their employers’ grasp. Millhands' habits and beliefs were more than remnants of a rural past; they were instruments of power and protection, survival and self-respect, molded into a distinctive mill village culture." [12]

6 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987
7 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987
8 Tompkins 1899: 114-118

9 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987
10 Suggs 2002: 29
11 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987
12 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987: 179-180

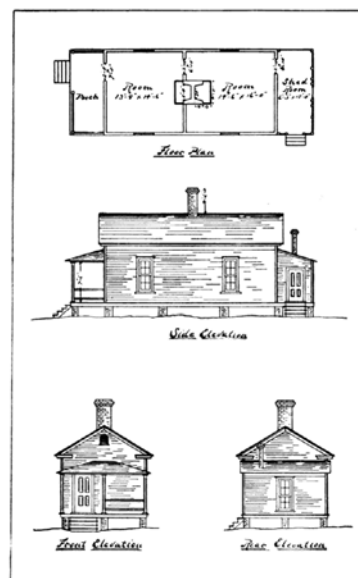


Fig. 30. Two-Room House. Cost \$250

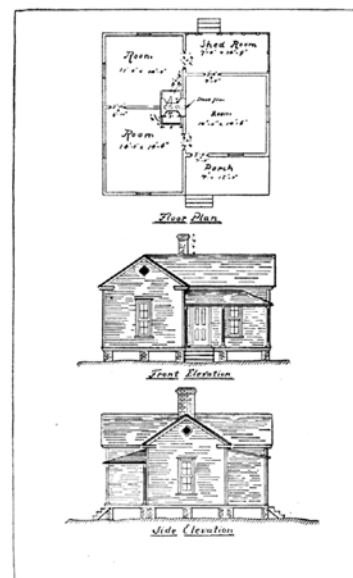


Fig. 32. Three-Room Gable House. Cost \$325

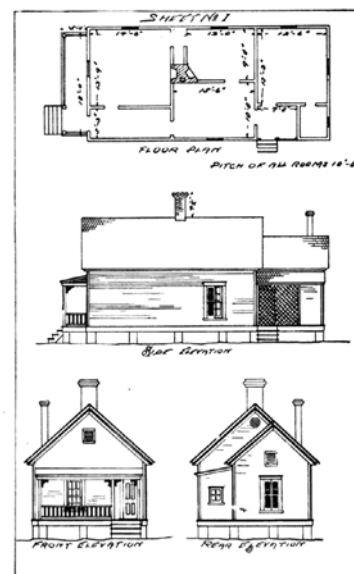


Fig. 34. Three-Room Narrow House. Cost \$325

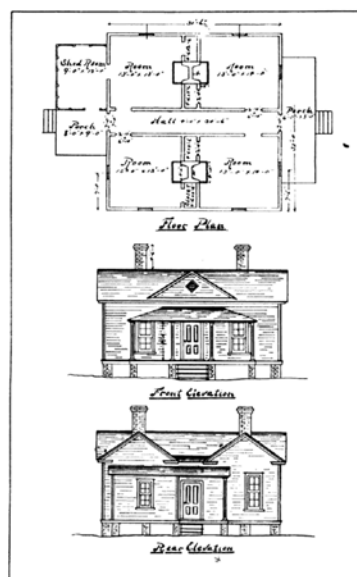


Fig. 36. Four-Room Gable House. Cost \$400

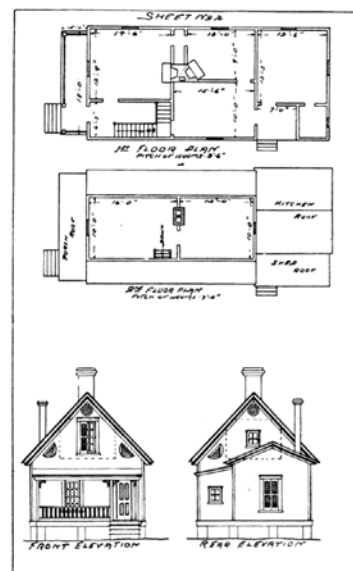


Fig. 38. Five-Room Narrow House. Cost \$450

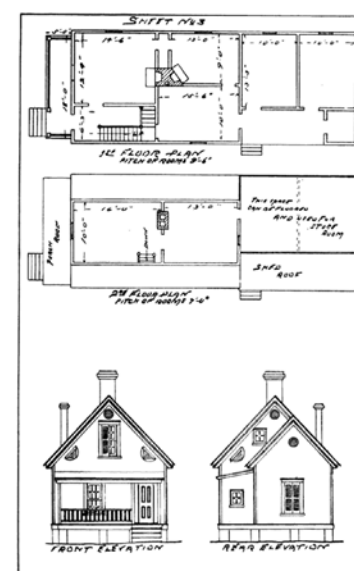


Fig. 40. Six-Room Narrow House. Cost \$600

IMAGE 4. ORIGINAL MILL HOUSES - FLOOR PLANS & ELEVATIONS. Tompkins 1899

2.1.2.2 MILL HOUSES

"In the early 1900s, most mill houses were one-story, four-room affairs, lit by kerosene lamps and heated by open fireplaces. Workers drew water from common wells and pumps, and less than 7 percent of mills in 1907-1908 had sewer facilities more elaborate than simple privies." [13]

Since most of the mill villages had some common space for gardening, farming, and gathering, there was not such a great need for large private lots for the mill houses. "It is well to have half an acre for each house. If they stand in rows or streets, they should not be less than 75 to 100 feet from centre to centre" [14].

Before coming to the realization that different families have different tastes and needs in their homes, it was customary to build long rows of exactly the same houses. In most cases, the houses were actually adjoining one another. [15] Later on, and depending on the company that owned the village, there were multiple different floor plans and elevation options with varying numbers of rooms for different family sizes. Some companies put more resources into the villages than others; even going beyond the shacks on stilts that some companies were throwing together and even built all brick bungalows with all of the modern amenities. All of these mill houses still had similar looks and some elements had become quite standard. The front porch is a great example of one of these characteristics.

13 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987: 179-180

14 Tompkins 1899: 114-118

15 Tompkins 1899: 114-118



IMAGE 5. HIGH POINT, NORTH CAROLINA - HOUSING.
Homes In Company-Owned Mill Village Of Pickett Yarn Mills - High Point, North Carolina

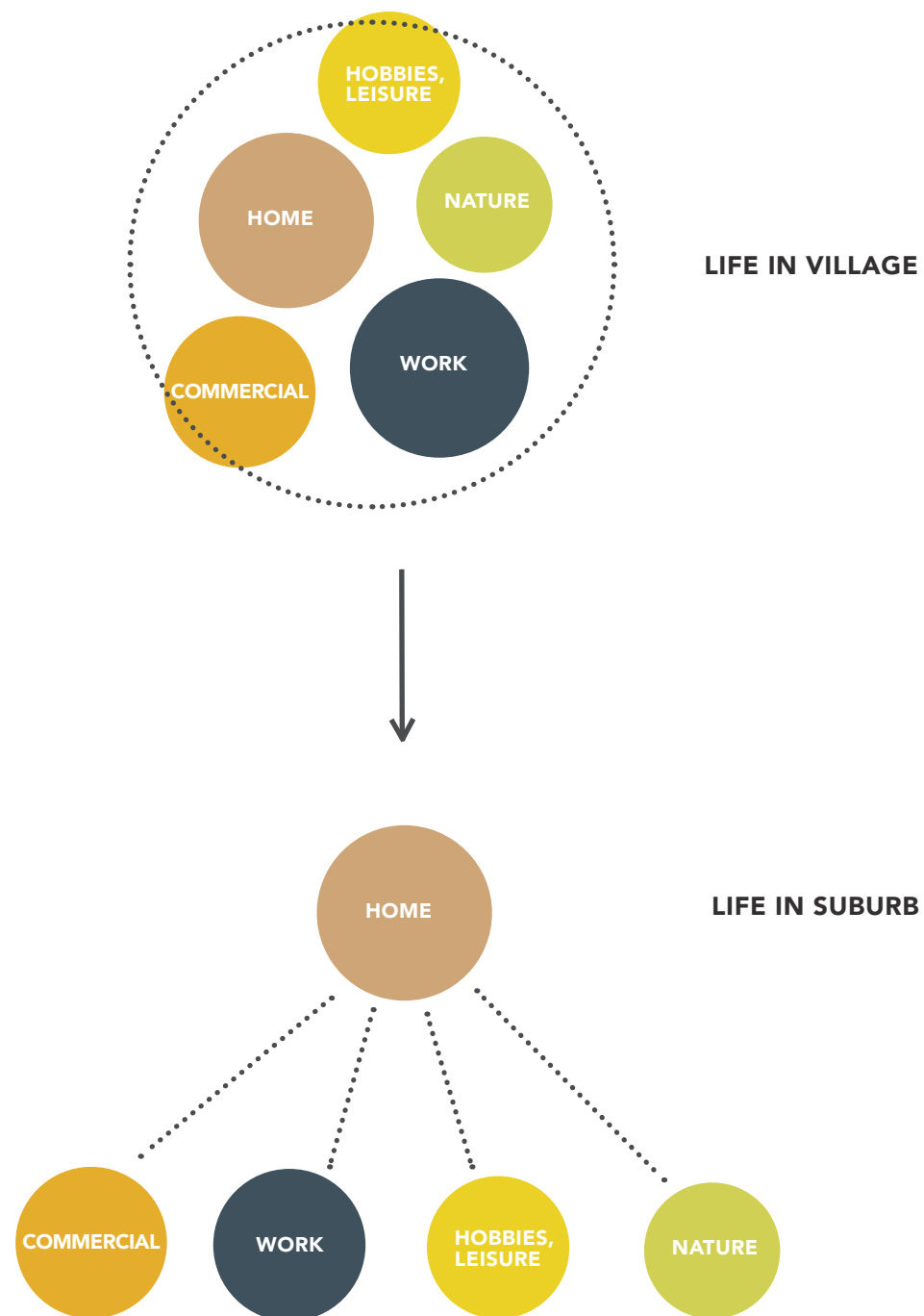
2.1.2.3 THE AMERICAN FRONT PORCH

In American history, the front porch has served as the buffer zone between the privacy of home and the public outdoors.

Price Reynolds cites in the book, *Out on the Porch*: "The front porch thrived in American architecture from the early eighteenth century right into the 1930s and forties for one main reason - - it served for instance as a vital transition between the uncontrollable out-of-doors and the cherished interior of the home." He also stated that the porch was a place for business activities, exchanging goods, sales, meeting neighbors, and catching up; and all in all a place where "all be conducted in the civil atmosphere offered by the shade of a prominent porch, apart from the sleeping and feeding quarters and without serious risk to the family's physical and psychic core." [16]

In McCuller's "Out on the Porch", he states that the front porch represented the American Ideal of Family. When the family was done working for the day, the porch provided a place where they could forget about their labors and enjoy the mild evenings while the children played; conversing with neighbors, doing their hobbies, reading, or just existing together as a family. McCuller also stated that, what the t.v room or living room of post-war America was, That was the front porch of the early 1900s. The front porch was a place where family gathered that happened to be public enough for friends and neighbors to drop by in order to stay connected. The front porch was the last bastion of a truly connected community in modern day America.

16 Reynolds 1992: 1



2.2 FALL OF MILL VILLAGES AND SUBURBAN SPRAWL

In the United States, following WWII, economic progress and innovations in streamlined construction techniques led to a boom in single family housing outside the city centers. As time went on, more and more people were led out of the dirty cities to this clean affordable living in the countryside. The outward sprawl continued as land close to the cities became more scarce and the suburbs were born.

.....

2.2.1 GLOBALIZATION AND THE FALL OF TEXTILE INDUSTRY

2.2.2 FROM VILLAGES TO SUBURBAN SPRAWL

.....

2.2.1 GLOBALIZATION AND THE FALL OF TEXTILE INDUSTRY

Mill villages were vibrant and self-sufficient while the factories were operational but around the late 1980s and early 1990s most of the mills and factories moved their production overseas following cheaper labor, due to globalization. After that, most of these factories have been abandoned and quality of life in the impoverish mill villages has went away with the jobs.

In South Carolina, the industry started to decline in the mid 1970's, following an economic slump and continually declined as overseas competitors became more competent and started to enter foreign markets. Then the factories themselves began to close up, following cheaper labor in Central America and Southeast Asia. This trend continued throughout the 1980's until the 1990's when this already unstoppable tide was exacerbated by NAFTA. The largest trade deal in history at the time made this kind of manufacturing the Southeast no longer economically feasible. The industry packed up it's doors and left. Leaving a few small mills here and there, catering to niche markets and more specialized processes. [17]

With the economic engine driving mill villages having almost disappeared, the villages were able to remain somewhat intact and inhabited simply because of a decision made by some Mill Owners in the early 1950's. As towns sprung up around the economic powerhouses

of the mills, A higher demand for housing came with it. Land developers and landlords moved into town and the mill owners, wary of competition and wanting to focus solely on their business of choice, divested from the mill villages. The mill owners hired brokerage firms to sell all mill house properties. Most mills gave priority to current tenants and employees, and finally sold them off to the general public. [18]

As the mills packed up and moved overseas, the communities surrounding the derelict mills have been frozen in time. The communities, in the absence of the industry and working class people, who had long moved to the suburbs, had became slums. The lack of an easy way out and dilapidated surroundings contributed to a lack of hope and cycle of poverty that has persisted for decades. Only now, as urban revival takes place in many of these communities, has the hope in these communities begun to be restored.

17 Jamieson 2010

18 Jamieson 2010

2.2.2 FROM VILLAGES TO SUBURBAN SPRAWL

“Though proclaimed as offering the best of both rural and urban life, the automobile suburb had the effect of fragmenting the individual’s world. As one observer wrote: “A man works in one place, sleeps in another, shops somewhere else, finds pleasure or companionship where he can, and cares about none of these places.” [19]

It is impossible to understand the basis for the modern day urban revival in the United States without understanding the events that led to the suburban sprawl and irreparably damaged the sense of place in small town USA. Many things contribute to the sense of place in a given location; topography, economy, zoning, environment, etc. The most important factor, though is social interaction and human connection to the place. During the suburban sprawl that started in the 1950’s and continues to this day, no impor-

tance has been placed on social interaction, and the result is fragmentation in our day to day lives. All facets of American life have been separated by miles and miles of roads, where homes are located among other homes, businesses among other businesses, and no intermingling of functions is present in these commuter communities. This is the disease plaguing small town america, and according to Bohl and Cusumano, it is the “antithesis of place”. [20]

19 Oldenburg 1997: 4
20 Bohl, Cusumano 2002: x

The suburbs were born out of post world war America. A land developer named William Levitt bought thousands of acres on long island with a vision of creating the first low budget housing community on an assembly line. He used manufacturing principles to simplify housing and create the first ever suburb. Where anybody could afford a home and a white picket fence. The suburbs were born. From there, Levitt brought his concept to numerous other developments on the east coast and thousands of competitors started up to follow suit. These early prototypical suburbs were not entirely bedroom communities. They were more like villages, clustered around train stations with main streets and shops to serve the neighborhoods as well as churches, apartments, and post offices. These original suburbs were real places, but they were a step towards the current status quo in the worst way. [21,22]

The suburbs started out as a noble pursuit. A home for everyone that would work for it; a white picket fence and a chicken in every pot. The fall of the suburbs begins with the construction booms of the 80’s and 90’s. All of the construction attracted unskilled labor to the suburban areas, and all of this unskilled labor increased the demand for low income suburban housing. Low-income suburban housing brought down the average price of homes in the suburbs and created an environment where builders and developers would have to streamline and cut costs incessantly to remain competitive. The original facets of these suburbs that made them feel like villages were no longer necessary. The general store in the neighborhood was replaced with the Walmart in the next town, the Main Street moved to the Mall and the only purpose left for these communities was housing. As cheap as possible. This is how bedroom communities were born, and the decreased importance placed on location created a new era in land developing, the suburban sprawl kept marching on and bringing people further apart. [23]

21 Bohl, Cusumano 2002: ix
22 Galyean 2015
23 Gallagher 2013

"Despite all the talk about "going virtual", people still want a sense of belonging, a sense of community: a place."

-Bohl, Cusumano. 2002. PLACE MAKING: Developing Town Centers, Main Streets, and Urban Villages

2.3
INFORMATION AGE AND
THE URBAN REVIVAL

"More and more people want to return to the traditional main street or town center, particularly as our lives become more mobile, more global, more computerized, and more hectic. Despite all the talk about "going virtual", people still want a sense of belonging, a sense of community: a place." [24]



- 2.3.1 CHANGING LIFESTYLES**
 - 2.3.1.1 Changing family structures
 - 2.3.1.2 Digitalization & changes in the workplace

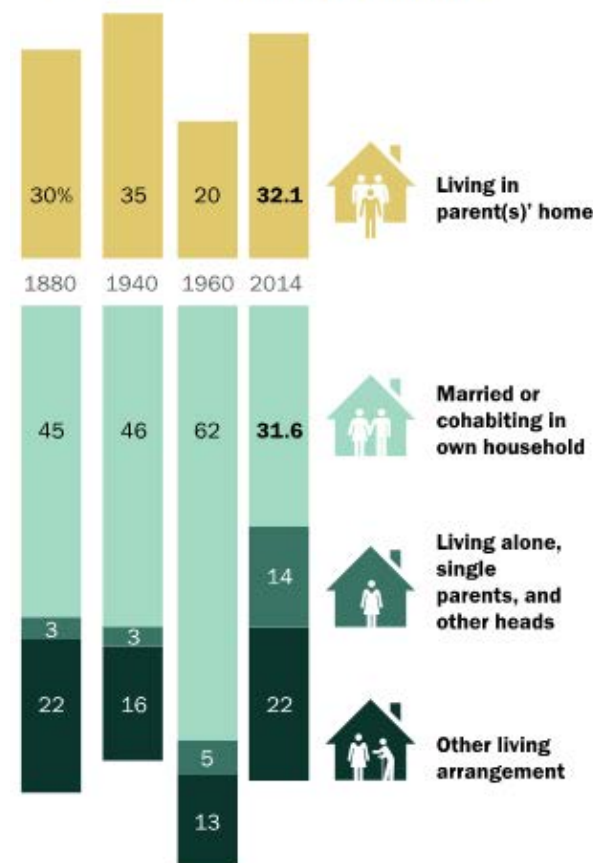
2.3.2 URBAN REVIVAL



24 Bohl, Cusumano 2002: x

Living with a parent is the most common young adult living arrangement for the first time on record

% of 18- to 34-year-olds by living arrangement



Note: "Living in parent(s)' home" means residing in a household headed by a parent regardless of the young adult's partnership status. "Other heads" include young adults who are the household head and living with roommates or boarders. "Other living arrangements" include living in the home of a grandparent, an aunt/uncle or a sibling or residing in a group quarters living arrangement (college dormitory or correctional facility).

Source: Pew Research Center tabulations of the 1880, 1940 and 1960 U.S. decennial censuses and 2014 American Community Survey (IPUMS)

PEW RESEARCH CENTER

IMAGE 6. CHANGING FAMILY STRUCTURES. Pew Research center. 2014.

2.3.1 CHANGING LIFESTYLES

2.3.1.1 CHANGING FAMILY STRUCTURES

During the initial boom of the mill villages, family structures were those traditional among sharecroppers and farmers in 19th century America. The first people moving to these villages were moving directly from the farms, so the traditional family with many children was quite common in these early mill villages. Then birth rates slowed during the war and depression years, lasting until the post-war baby boom. The post-war baby boom coincided with the advent of the suburbs and was a time when every man and woman in America was striving for a common goal of 2.5 children, a single family home and an automobile. This young working family ideal persisted for many years in the mills and the mill villages until the eventual fall of the mills.

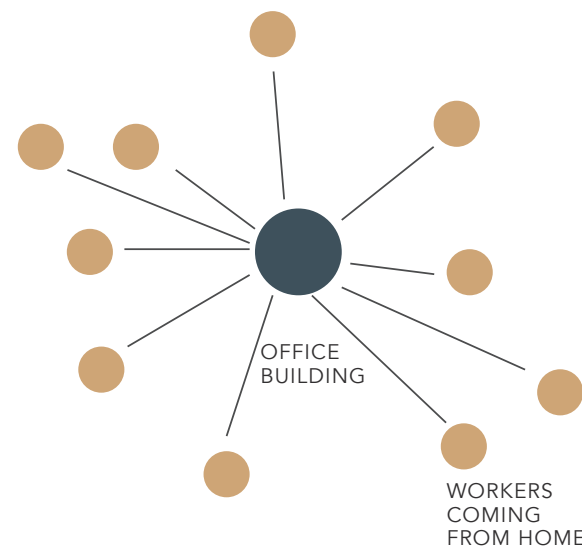
Two decades after the last mill moved overseas and the age of the mill village was officially older, a big change came to the American way of life. The housing market collapse

of 2008 and the Great Recession to follow. Many young people failed to move out of home as the economy at their time to launch was in such a state. In the USA, for first time in modern era, it is more common for 18- to 34-year-old young adults to live with parents than have other living arrangements. This, coupled with more young people focusing on their schooling and professional lives before having families has led to a drastic drop in the demand for single family housing among young adults. [25]

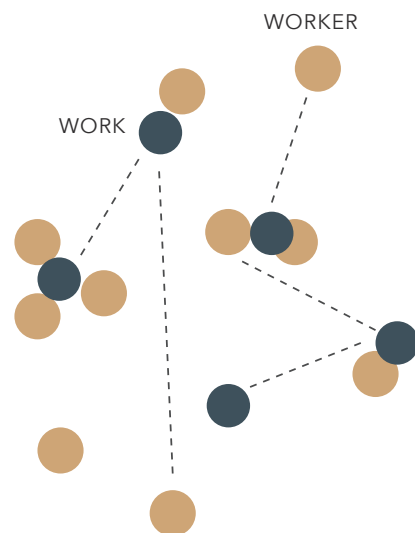
There are very few options in Upstate South Carolina for affordable housing for young single people. The urban revival downtown is bringing more single living apartments, but the high costs of downtown living are not for everyone. These dynamic lifestyle shifts make it essential to respond to the new forms of shared living." [26]

25 Fry 2016

26 Römer, Drexler, Schultz-Granberg 2015: 25



TRADITIONAL WORK SITUATION -
COMMUTING



WORK IN THE INFORMATION
AGE

With easy connectivity and tools on hand, independents and employees can now work anytime, anywhere, and in any way that they choose.”

-DeGuzman, Tang. 2011. Working in the "UnOffice"

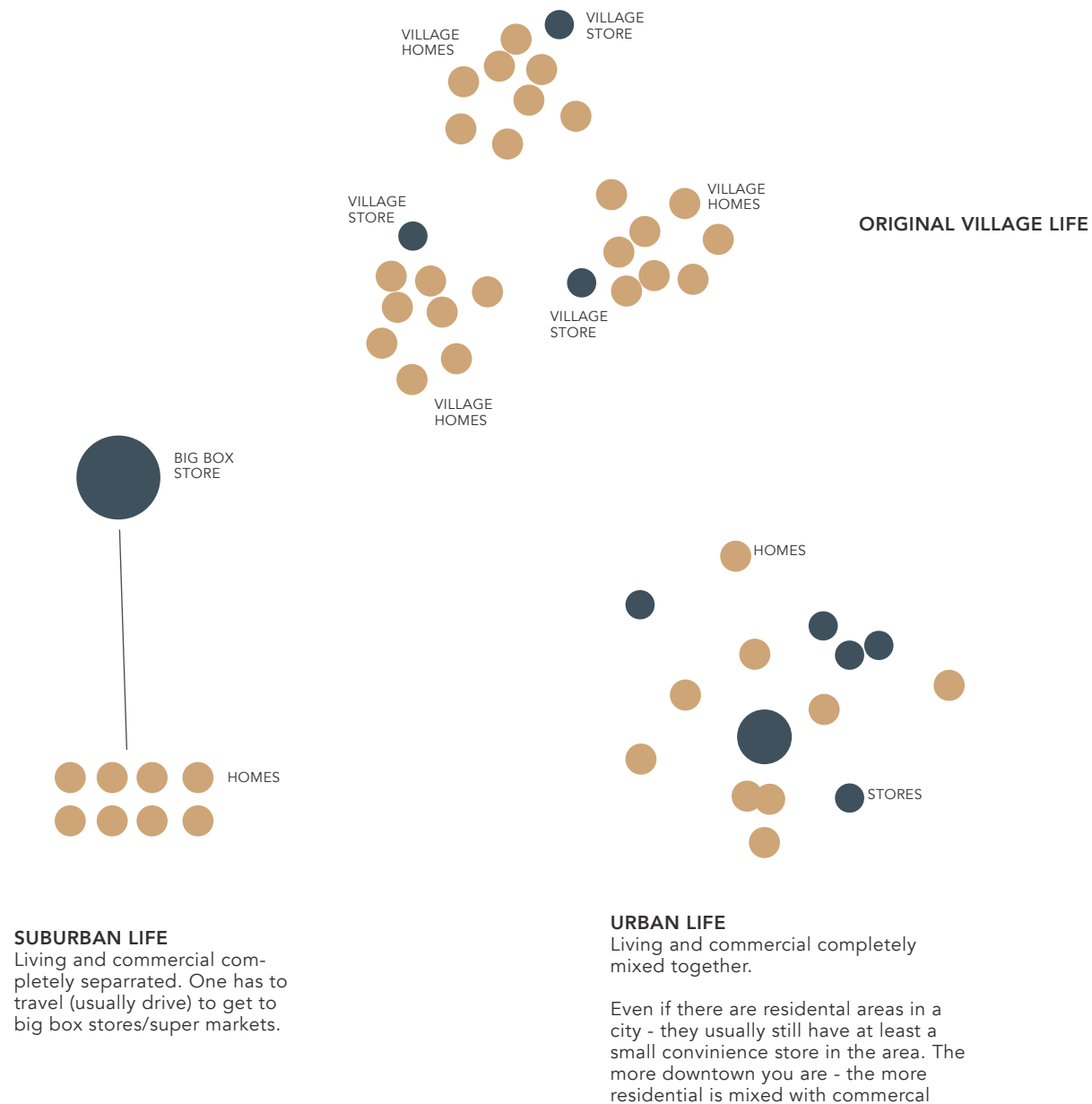
2.3.1.2 DIGITALIZATION & CHANGES IN THE WORKPLACE

Digitalization makes it possible to access things that are far away. That simple but revolutionary trait of the digital revolution has the potential to turn the modern-day workplace on its side; and its effects are already being realized. It has opened doors to things like telecommuting, freelancing, online retail, software startups, the entrepreneurial revolution and more. It is impossible to quantify the effect that digitalization has had on day-to-day life, but one thing is certain; that it has changed the way we work.

In the past, when work was mainly manual labor, it was tied to a place. The worker needed to be where the work was: on a field, in a forest, in a factory. Even when some jobs started to move into offices, workers had to be where the work was - in the office. The more globalized and digitalized the world has become, the less jobs had been tied to a place. In the information age, the knowledge worker can work remotely from the other side of the world; from one's home, from a different place every day. This has led to

a huge increase in the number of people working from home, home entrepreneurs, freelancers, and small business owners. Most of these people would not find themselves in the same situation without the internet, and now would not find themselves sitting in a cubicle with it.

As remote working, telecommuting, and freelancing are increasing in popularity, human interaction between coworkers and colleagues is at an all-time low. Coffee breaks, lunch meetings, saying good morning to your coworkers, conversations in the hallway, and asking opinions or advice from the guy at the next cubicle are all part of a work day in the office, but nonexistent when you're working remotely. These important moments are not only good for productivity, as workers share ideas and boost morale, they are an important part of Remote work brings a need for solutions for new type of work arrangements, both socially and architecturally.



2.3.2 URBAN REVIVAL

URBAN REVIVAL & ENVIRONMENTAL CONSCIOUSNESS

As we experience yet another record breaking year for global average temperatures, there are growing movements all around the world to shift towards more environmentally conscious ways of doing things.

The millennial generation in America is the first to truly embrace this low-impact lifestyle, and as a result, more young people are moving to cities and fewer young people are buying cars than ever, trading the personal cars of previous generations for public transportation, bikes, and ridesharing.

Millennials often prefer simpler lifestyles, attributing the economic crisis of the last decade as well as the environmental crisis to the rampant materialism of previous generations. People are getting more interested in where their food is coming from and what's in it as well. The organic foods industry has exploded in the last couple of years and as

more people are supporting local farmers, farmers markets are springing up all across America. These low-impact and city-focused lifestyles are part of what is being called the new urban revival [27]

The growing infatuation with shopping local and supporting small businesses also has roots in the city center. The big box stores got popular around the same time that the suburbs really started to take off, and part of the disillusionment with the consumer culture of the suburbs is also causing people to turn back to small businesses and supporting craftspeople.

The urban revival has been happening for some time, and there are many reasons behind it, but for the sake of this thesis, the main reasons behind the urban revival that we will focus on are growing environmental consciousness and overall disillusionment with suburban materialism.

27 DeGuzman, Tang 2011: 12

2.4

CONCLUSIONS FOR THEMES

COMBINING ELEMENTS FROM THE LIFESTYLES IN:

TRADITIONAL VILLAGE



SUBURBAN AREA



URBAN AREA

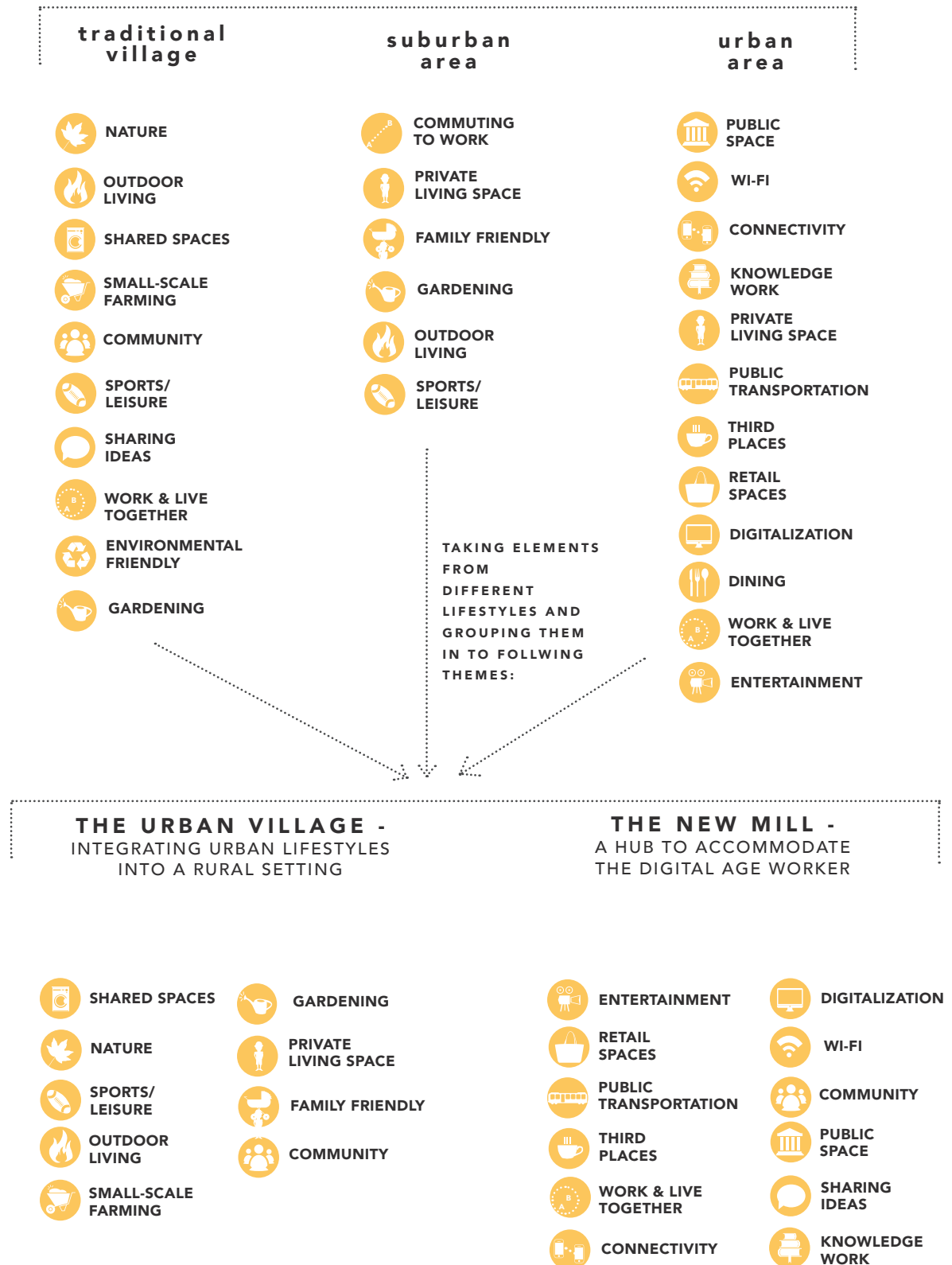


CREATES CONCEPTS FOR NEW TYPE OF LIVING & WORKING:

THE URBAN VILLAGE -
INTEGRATING URBAN LIFESTYLES INTO A RURAL SETTING

THE NEW MILL -
A HUB TO ACCOMMODATE THE DIGITAL AGE WORKER

LIFESTYLES IN :



3.1

THE URBAN VILLAGE - INTEGRATING URBAN LIFESTYLES INTO A RURAL SETTING

3.2

THE NEW MILL - A HUB TO ACCOMMODATE THE DIGITAL AGE WORKER

3.3

CONCLUSIONS FOR THE CONCEPT DESIGN

3

THEMES

for architectural concepts

In this chapter, the themes behind the architectural concepts presented in chapter 4 are being introduced. Taking elements from the original mill village, understanding what went wrong in the suburbs, and adapting them into the digital age individuals' urban lifestyle, but in a rural setting led to the following themes:

Life in the urban village - integrating urban lifestyles into a rural setting &
The new mill - a hub to accommodate the digital age worker.

All spaces can be defined as either private or public. This is a defining factor that determines the way people interact with the space, the way people act within the space, and the kind of life that space sees. In creating vibrant life within a community, the relationship between private and public space is a monumental factor affecting both quality of space and quality of life in the community.

-Madanipour. 2003. Public and Private Spaces of the City. Routledge. p3.

3.1

THE URBAN VILLAGE

-INTEGRATING URBAN

LIFESTYLES INTO A

RURAL SETTING

“Forms of living and lifestyles have diversified, just as the growing need for job mobility and other work forms lead to the need for a better tie between living and working places. All of these individual and diverse ways of life of today’s society lead to changed needs and specific ideas about living spaces. Alternatives to the existing forms, but also simply new, contemporary solutions are needed.”[28]

.....

3.1.1 THE NEW LIFESTYLE IN THE URBAN VILLAGE

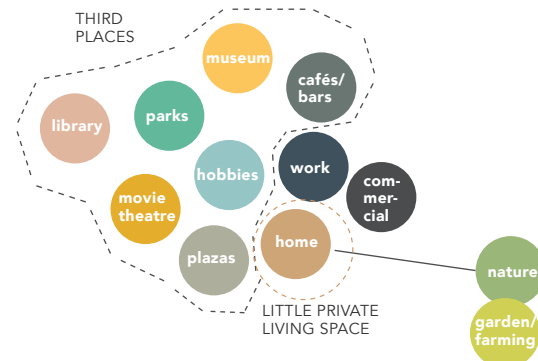
3.1.2 COMBINING PRIVATE AND PUBLIC THROUGH SHARED SPACE

3.1.2.1 Home & Privacy

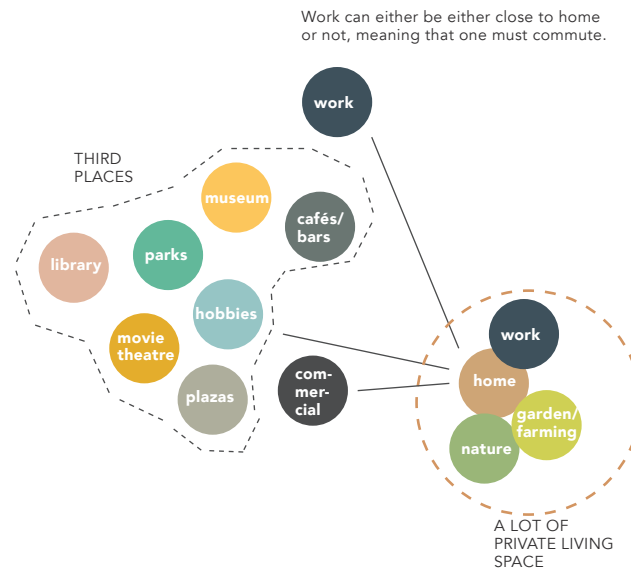
3.1.2.2 Shared space as a buffer zone between private and public

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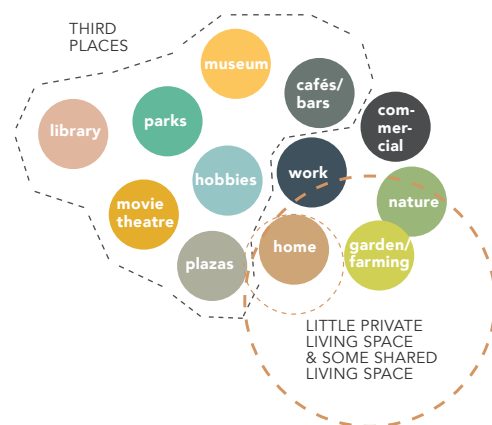
28 Ring 2015: 196



URBAN LIFE



RURAL LIFE



URBAN VILLAGE LIFE
= combination of urban &
rural lifestyles

3.1.1 THE NEW LIFESTYLE IN THE URBAN VILLAGE

In designing the urban village, there is a chance to take the best parts of urban and rural lifestyles and combine them into a whole. Bringing urban lifestyle into a rural setting means densification, while leaving enough open space for interaction and activities.

In a book Urban Living, edited by Kristien Ring, the idea of how densification can be the main factor in creating higher urban quality is presented. However, that can only be the case if “the right mix of uses and social structure is achieved”. [29]

URBAN LIVING book introduces the following mixtures in the neighborhood [30]:

Affordability:
Long-term, affordable living spaces are essential for a good and stable neighborhood

Living Typology Mix:
With a specific, socially orientated programming, as well as the availability of a differentiated mix of apartment types, a social mix can be improved within a district. Flexible spaces and barrier-free building standards create multi-generation living models that can be adapted to suit changing life situations.

Mixed-Use/ Mix of Living and Working:
Mixed-use facilitates interaction within the area and can help vitalize the entire quarter. Small-scale and affordable offices and commercial spaces within the neighborhood are needed. Flexible spatial configurations and floor plans that can be used in many different ways, make a combination of living and working possible.

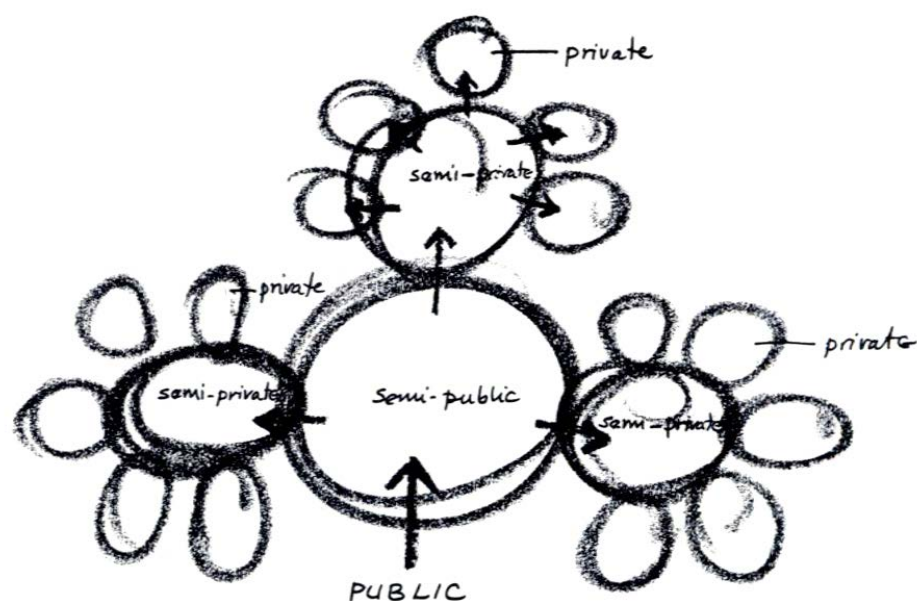
The job of an architect today goes beyond creating enough housing for the growing populations in our cities, but rather to ensure that the ever changing needs of society are reflected in these new developments. We must develop spaces that meet society's needs while remaining adaptable, as the needs of society are in a constant state of flux. In creating sustainable solutions for new and existing housing projects in today's urban centers we must improve quality of life, adding new features and opportunities, while improving efficiency and density where it is needed. It is also important to provide a wide array of living spaces for the various family and living situations that are common in today's world. [31]

29 Ring 2015: 196

30 Ring 2015: 170

31 Ring 2015: 196

3.1.2 COMBINING PRIVATE & PUBLIC THROUGH SHARED SPACES



In his book, *Defensible Space: Crime Prevention through Urban Design*, Oscar Newman made this diagram depicting the relationship between public, semi-public, semi-private, and private space. He emphasised the importance of using semi public and semi private space to ease the transition between fully public and fully private space.

PICTURE 7. RELATIONSHIP BETWEEN PUBLIC, SEMI-PUBLIC, SEMI-PRIVATE, AND PRIVATE SPACE
Newman 1972

All spaces can be defined as either private or public. This is a defining factor that determines the way people interact with the space, the way people act within the space, and the kind of life that space sees. In creating vibrant life within a community, the relationship between private and public space is a monumental factor affecting both quality of space and quality of life in the community. The relationship between private and public space is what shapes our cities; it's the first thing one sees when walking through a city and the very reason for the walls and buildings that make up that city. The relationship between these spaces has economic, social, cultural, and political ramifications as well. In terms of economics, the private and public ownership shape our cities by creating a basis for and actual investment in infrastructure. Politically, public and private space are a key topic in all political discourse because of their ramifications in daily life. Culturally and socially, public spaces create our culture and shape society, while private spaces shape our perception as well as our manner of interacting with society, and in turn society as a whole. [32]

While by definition, private and public have very clear meanings that leave very little open to interpretation, when used to categorize space in a city and the relationship between the two, the lines begin to blur at the intersection. These lines define city life as well as how a society organizes itself as a whole. These lines control our movements through space, our home lives, and every facet of our interaction with architecture. This distinction is also as old as the idea of a city. The distinction between home and the street was present in ancient cities, including Ur, in Mesopotamia, over 4000 years ago. There is no way to organize society without it, suggesting that this distinction has a direct link to the way that humans react, and have always reacted, to each other and human relationships as a whole. According to Ali Madanipour, "The division of space and society into public and private spheres, therefore, affects individuals' mental states, regulates their behaviors, and superimposes a long-lasting structure onto human societies and the spaces they inhabit." [33]

32 Madanipour 2003: 3

33 Madanipour 2003: 1-2

3.1.2.1 HOME & PRIVACY

"The home is a core institution in modern society. It shelters the smallest viable unit of social organization - the household" [34]

In quantifying the importance of the home on the development and well-being of an individual, the old adage, “home is where the heart is” comes to mind. Housing is one of the most basic needs of humanity. Housing serves as protection from the weather, space for individual and family time, as well as contributing to the self perception and personality of the occupant. People not only find influence from the actions of their neighbors, but base their own selves upon generalizations and perceptions of people in similar living situations and actually embrace and embody the lives that correspond to their living situations. The home offers both physical comfort and psychological shelter. The home is a place where one’s individuality can be expressed away from those prying eyes of those without the individual’s best interests in mind. The home represents all that is pri-

vate and personal, and this comparison will grow more and more important as questions about personal space and privacy make it into the realm of public conversation. [35]

The private sphere is completely under the control of the individual and it is outside the realm of public observation. The home is an important part of a person’s individuality, and a place where it can be expressed freely. [36] The importance of this private space is something to remember especially when designing affordable housing; To fulfill all aspects of good home design, it’s not enough to fulfill the functional requirements but also find a way to create a space where one can feel home and express themselves. [37]

34 Madanipour 2003: 64
35 Römer, Drexler, Schultz-Granberg 2015: 17
36 Madanipour 2003: 64
37 Römer, Drexler, Schultz-Granberg 2015: 17

3.1.2.2 SHARED SPACE AS A BUFFER ZONE BETWEEN PRIVATE AND PUBLIC

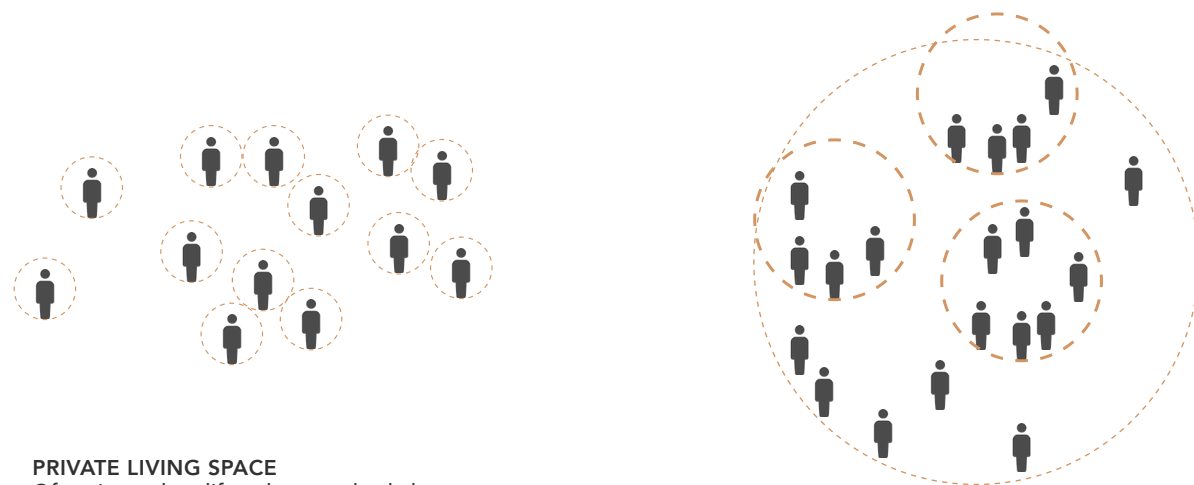
“Back in 2009, when the Nobel Prize in Economics was awarded to Elinor Ostrom, it gave credence to a simple idea we’ve all known as kids but often forget as we get older and enter the real world: Sharing is good.” [38]

SHARING ECONOMY

Ostman compared the resources of the earth that we all share as humans to public services in cities like transportation, and suggested that the natural instinct that we have to share these things could transfer over to other aspects of life. This would result in a commons based society where things and resources are used as needed, but shared among society to eliminate waste and improve availability of resources. She suggested that many of the complex problems facing humanity today can be fixed by going back to our roots and collectively tackling them as a community. Reducing our impact on the environment could be done by increasing awareness in every persons’ mind. The economy and increasing unemployment due to automation can be solved through a collective society where the spoils of production are evenly shared among the people. Ostman suggested that the thing we need most, is the thing that comes most natural to us. [39]

In city centers and where space is very limited, the mentality of sharing can make better use of the space and reduce the strains of overcrowding and increasing density on a city. While understanding the importance of privacy and private space to society, there is a great need for understanding on which spaces must be private, and which spaces we wouldn’t mind sharing with a few neighbors. This would create an opportunity for amenities that would otherwise not be possible to be made more widely available and increase the common quality of life in urban areas. All of this can be possible through shared spaces. [40]

38 DeGuzman, Tang 2011: 3
39 DeGuzman, Tang 2011: 3
40 DeGuzman, Tang 2011: 3-8

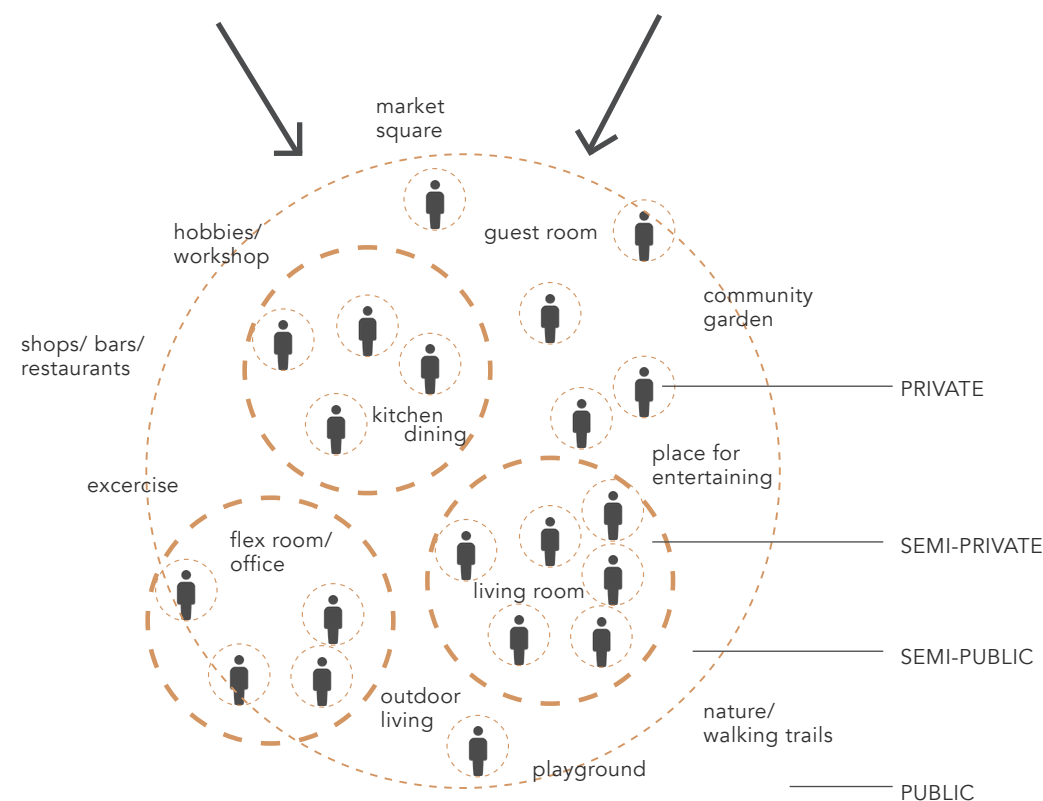


PRIVATE LIVING SPACE

Often in a urban lifestyle, everybody has a small private living space & access to a large public space; but even when living in the same neighborhood, there is no community

SHARED LIVING SPACE

Forms communities with little or no private living space inside of a larger community. There are multiple groups of smaller, closer-knit communities



SMALL PRIVATE LIVING SPACE WITHIN A COMMUNITY

Small private living space (mainly BED & BATH)
+ extended shared living space within a community
(different levels of privacy, shared space, & community)

In their book, *Working in the UnOffice: A Guide to Coworking for Indie Workers, Small Businesses, and Nonprofits* (2011), Genevieve V. DeGuzman and Andrew I. Tang present an idea of people shifting toward a 'Sharing economy'. The Idea of sharing does not only exist in the workplace, but also in home lives. DeGuzman and Tang describe the 'Sharing economy' as "changing the way we spend, interact, work, and live." The sharing economy is part of a rising culture and a trend called "collaborative consumption". [41] "The mindset of collaborative consumption veers away from owning something to having easy access to it. It's akin to say, being able to drive a car when you need to, without the actual burden of ownership" [42].

SHARED SPACES

It is easier to establish the difference between private and public space than to define the space in-between them; semi-private and semi-public. That in-between space is also where most shared spaces fall. Shared spaces can have different levels of privacy depending on the nature of the space and with whom those spaces are shared. Well designed and well functioning shared spaces are widely used, easily managed, and create easier access to amenities that would perhaps not be accessible otherwise. [44]

Digitalization has changed the way things are shared; since it's possible to easily find anything online, owning things has become less important and borrowing, sharing and exchanging things when the need arises has become more popular. For example, it seems unnecessary that everyone would have to own tools that are not needed often, lawn mower just to be able to use it twice a month or private car if you don't need it daily. The things people share are not limited to different objects, but also time, skills, information and media can be shared. [43]

There must be trust in between the users of the shared space for the space to work and for the users to care enough and feel ownership over the space. In a housing community, the quality of life and the safety level of the area can usually be indicative of the level of trust between the residents of the area. "Studies show that high social trust usually correlates with low crime rates and good economic performance." [45]

41 DeGuzman, Tang 2011: 3-8

42 DeGuzman, Tang 2011: 5

43 DeGuzman, Tang 2011: 3-8

44 Ring 2015: 198

45 DeGuzman, Tang 2011: 7

“The creation of living space is not about abstract numbers or pure economic factors; it is about creating homes that are suitable for the actual real lives of the residents.”

-Römer, Drexler, Schultz-Granberg. 2015. Housing for Everyone, Affordable Living

Shared spaces are a buffer zone - safe zone - between public and private. It is not as controlled by its users as the home, but one feels more ownership over the space than public spaces, a feeling that must be shared among residents of the space for the future of the space and for the spaces well-being.

As introduced in earlier chapter in this thesis, the American front porch has had a very strong sociocultural meaning in American history, and it is a great example of one of the in-between spaces that is not truly private but also not public. The front porch is semi-private space, where the user can invite people to interact with them by sitting out on the porch. This is the space that the homeowner has enough ownership over to warrant an invite, but the outsider has enough ownership over to feel somewhat welcome regardless. The front porch is a space where company is expected. One can feel safe inviting outsiders onto the porch because the sacred seal of the private space is not broken, but the deed of inviting a person onto the porch is an effort to create or maintain important relationships within the community.

With the rising tide in the United states of collaborative consumption, there is an increasing need in the lives of young people of an outlet for community and space to connect with those around them. As we get drawn deeper and deeper into private life through digitalization, both in the economy as work situations change, and in our private lives as society reacts to digitalization, the front porch is more important now than ever. The front porch must be revived in collaborative community as a semi-public space, where guests are welcome, business is held, and polite conversation is had with other members of the community. Shared spaces are imperative for society to react to and plan for a future of limited space and resources, to learn to share with a community the things that need not be private. Shared spaces are beginning to fill a very real need, but are also convenient spaces to reconnect with the world around us and once again remember the communities that we inhabit.

"VILLAGE INSIDE OF A VILLAGE"

Small private living space within a community



A HOME

is the smallest unit in this concept. Homes can vary in sizes and in members living in them. The inhabitant is in control of how the space is used and who's invited to use it. The idea of a village community can actually be similar to a community that one family shares, but on a larger scale/

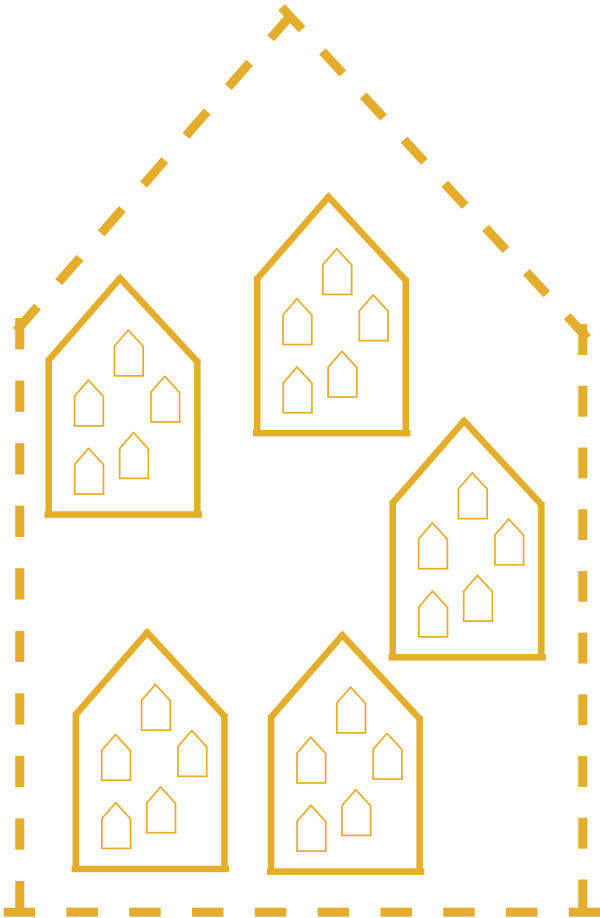
private space - shared with family/ household



A CLUSTER OF HOMES
- "MICRO-VILLAGE"

Together, home units form clusters of homes which are called micro-villages. A micro-village has the same elements as a village community: each inhabitant has a small private space combined with some shared space inside the community. A micro-village community is closer and more private than a traditional village community since it's shared between less people.

*private space inside of a semi-private community
- shared with nearby families/households*



A VILLAGE

is formed around multiple clusters of homes. Inside of a village there are different privacy levels and different levels of community.

*Semi-public space with smaller semi-private communities in it
- shared with inhabitants of the village & people visiting the village*

“Old ideas can sometimes use new buildings. New ideas must use old buildings.”

-Jacobs. 1961. The Death and Life of Great American Cities.

3.2

THE NEW MILL

-A HUB TO

ACCOMMODATE THE

DIGITAL AGE WORKER

“The key to a vibrant, livable city is creating spaces where positive interactions can take place. Quality green and open public spaces play the central role, and in order for these spaces to work well, residents need to have a sense of identity and take on responsibility for them. To enable this, it is important to have spaces where, by way of participation, the residents can feel included.” [46]

.....

3.2.1 MIXED-USE DEVELOPMENT IN A REPURPOSED FACTORY BUILDING

3.2.1.1 Rethinking the workplace - coworking spaces

3.2.2 PUBLIC SPACES AROUND THE FACTORY

-creating a sense of a place

.....

46 Ring 2015: 171

3.2.1

MIXED-USE DEVELOPMENT IN A REPURPOSED FACTORY BUILDING

"A combination of many things—from architecture, to cultural institutions, to topography, history, economy, and physical appearance—create place. But there is one more key factor: you must have social interaction to have a true place." [47]

47 Bohl, Cusumano 2002: x

"A mixed-use development is a real estate project with planned integration of some combination of retail, office, residential, hotel, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl." This new definition was revealed during the first industry-wide conference on Mixed-Use Development, which was hosted by ICSC, NAIOP, BOMA, American Resort Development Association (ARDA, and NMHC). [48]

In the original mill village concept, people worked at the mill and the employer provided housing nearby. With this arrangement, the workers could devote more time to their work, but still enjoy their leisure time activities and have more time for family, since it eliminated commuting. The mill was the reason why the village was formed around it and that's why the mill often became the focal point of the village. Besides housing, mill villages often included village stores, schools, churches and some common areas [49]; in other words, early mill villages can be considered as early mixed-use developments.

48 Olmer, Hamilton, Horsley, Burney, Tuckee 2006

49 Hall, Leloudis, Korstad, Murphy, Jones, Daly 1987

In order to create a truly vibrant urban hub that people would want to use, it has to provide spaces, functions and activities for different needs and for different people. Besides living and working, people need third places which are neither home nor work. Third places are places to socialize, interact with other people, spend free-time and watch life happen. Mixed-use development provides these third places via coffee shops, restaurants, common areas and places for hobbies, much in the same way that the original mill owners provided these third places for the workers.

The new mill concept takes the original idea of the mill village formed around the mill building and updates it to accommodate the digital age worker, providing diversity of commercial spaces, office/work spaces and apartments, to create a vibrant urban hub in a repurposed factory. The repurposed factory is the perfect venue for this type of development because of the large quantity of highly versatile space that is available at a relatively low cost. There is also an existing community surrounding the mill from the original village, providing a perfect canvas for the concept.

"Members pass each other during the day, conversations get going, and miraculously idea-fusion happens with everyone benefiting from the shared thinking and brainstorming. ”

-DeGuzman, Tang. 2011. Working in the "UnOffice". p.7.

“Enthusiasm and creativity become contagious and multiply when you diversity your work environment with people from different fields or backgrounds. ”

-DeGuzman, Tang. 2011. Working in the "UnOffice". p.7.

3.2.1.1 RETHINKING THE WORKPLACE - COWORKING SPACES

Earlier chapters in this thesis presented some changes in the workplace and in the way that people work today, mainly due to digitalization. It has become clear that both socially and architecturally, a new type of work space is needed for those telecommuters, entrepreneurs, traveling workers, creatives looking for communities, and other types of semi-nomadic workers in the complex digital age who are looking for a place to work outside of the traditional office building, home or a coffee shop. Almost more than the physical space to work, these people are looking for a place where innovation and community take place, where ideas are shared and social interaction and networking are part of every work day.

DeGuzman and Tang created a guide for Indie workers, small businesses, and nonprofits in their book, Working in the “UnOffice” (2011). The idea of the “UnOffice” that they are presenting is a concept called coworking: “At its most basic level, coworking is the phenomenon of workers coming together in a shared or collaborative workspace for one or more of these reasons: to reduce costs by having shared facilities and equipment, to access a community of fellow entrepreneurs, and to seek out collaboration within and across fields” [50]

More than just a place to work, coworking is providing a venue where individuals and small businesses who would otherwise work alone can work together, sharing resources and ideas, learning from each others’ skills and expertise and help each other grow to their full potentials. [51] Regardless of different types of buildings, amenities and in-house rules, all coworking spaces share the same core values: collaboration, community, sustainability, openness, and accessibility.” [52] These types of spaces are not only good for the individuals who inhabit them, but fostering this type of collaboration and community in a space has proven to improve innovation, creating the type of atmosphere that is needed to solve complex issues facing the world today and create jobs in the highly complex, fast moving industries of the digital age.

Coworking is part of the new trend of collaborative consumption, and being such a central part of the movement, can be a central draw and hub that collects the people and spokes around it to foster more open and collaborative communities around these repurposed mills. [53]

50 DeGuzman, Tang 2011: 7

51 DeGuzman, Tang 2011: 4

52 DeGuzman, Tang 2011: 23

53 DeGuzman, Tang 2011: 8

3.2.2 PUBLIC SPACES AROUND THE FACTORY

-creating a sense of a place

As the world becomes more interconnected and people are increasingly exposed to news, media, and culture from all all around the world, at all times, there is a growing movement of people that want to move back to the small-townway of life. This type of movement is bringing more and more people want to return to the traditional main street or town center, particularly as our lives become more mobile, more global, more computerized, and more hectic.

Despite all the talk about “going virtual”, people still want a sense of belonging, a sense of community: a place.” [54]

For a time, in small town USA, this sense of place and belonging was found along the town’s main street. The main street was

where friends and neighbors would gather to do their shopping, sell their wares, run their errands and interact with the other people of the town. This was a time when people in these small towns were acquainted with their neighbors and made a point to get acquainted with anyone new that they saw. The main street gave them the venue for that sense of community because it was theirs. It was unique to their town and filled with the people that they knew. When the big box stores arrived and people started to drift further and further into the suburban sprawl, the sense of belonging faded.

It’s harder to find someone you know, or remember everybody’s name when the community that you are part of is so large that a 30,000 square foot warehouse is needed

54 Bohl. Cusumano 2002: x

“Open space contributes to a positive interaction between residents and their urban environment.”

- Ring. 2015. URBAN LIVING, Strategies for the Future. p.171.

to provide groceries for everyone. Though the streamlining of commodities that has led to this big box stores may not be reversed, there still is opportunity in the main street to bring some commerce back to the village. The main street needs enough action to create a constant sense of place and sense of being surrounded by those in your community. This is possible through craftspeople selling their wares, artist studios, coffee shops, bookstores, etc.

The purpose of public spaces such as town centers, main streets, and market squares is to provide a truly public places for people to spend time, interact and socialize, but at the same time these places are establishing “a strong identity for residential developments.” [55] As important as different ac-

tivities and mixed uses in buildings are, the public spaces around the buildings are just as important. Building doesn’t just a form a space inside it but also around it - this is what the spread out mill building is creating with its multiple “courtyards” and hidden gems around it. Several different functions/ public places in the mill building and around it create a network of places connected with pedestrian oriented paths. Each plaza, park and square has its own identity and atmosphere - which helps to create a sense of a belonging, an identity and a place. These places have the potential to be centers for true cultural and community growth within the mill, if properly utilized to ensure that a sense of place is created.

55 Bohl. Cusumano 2002: xi

3.3

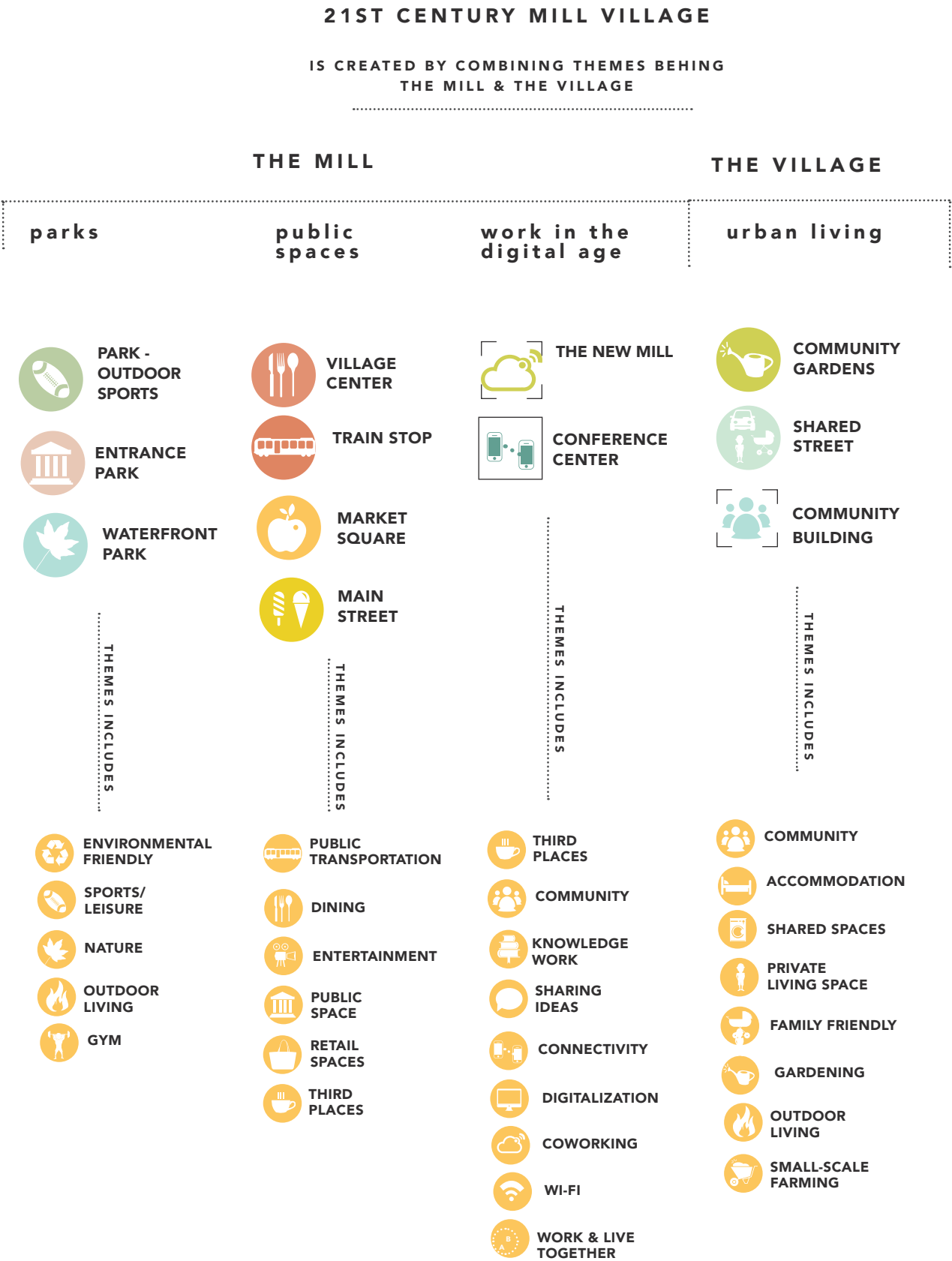
CONCLUSIONS FOR
CONCEPT DESIGN

THE NEW MILL -
A HUB TO ACCOMMODATE THE DIGITAL AGE WORKER

+

THE URBAN VILLAGE -
INTEGRATING URBAN LIFESTYLES INTO A RURAL SETTING

= 21ST CENTURY MILL VILLAGE



4.1
INTRODUCTION & SITE ANALYSIS

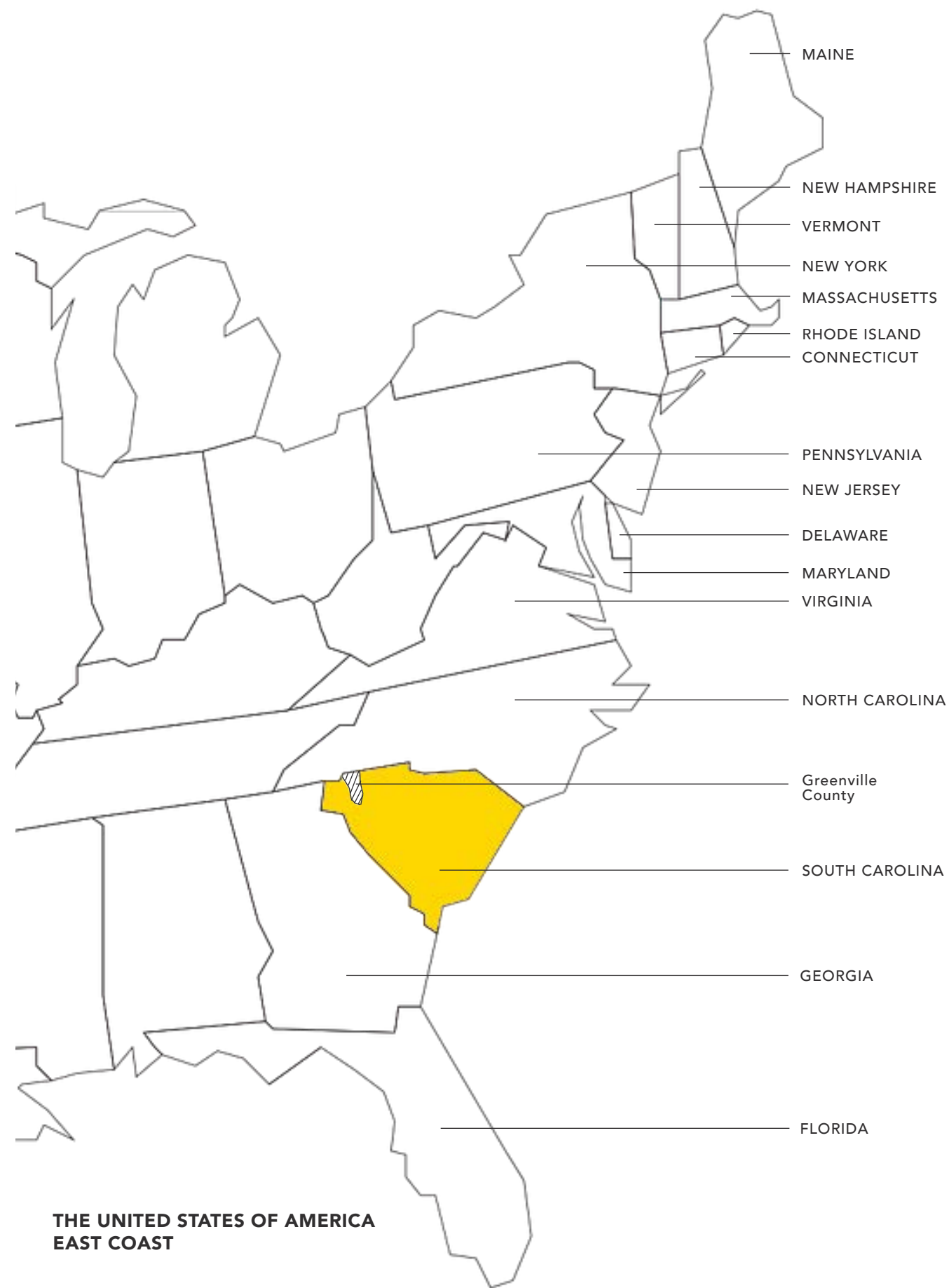
4.2
MASTER PLAN -
21ST CENTURY MILL VILLAGE

4
CONCEPT
DESIGN

21st century mill village
case study: Taylors Mill

This chapter introduces how concepts created in the earlier chapter are used in this design application for the Taylors Mill area - creating The 21st Century Mill Village.

The reason why the mill area is not doing so well today is that the area and its housing are not meeting the requirements of people's lifestyle today. The original mill village mixed living and working together, providing homes for the people working in the mill. The new concept for The 21st Century Mill Village is taking the historic mill village concept and updating it to meet the needs of today's lifestyles; including living and working, repurposing the old factory building to become a hub to accommodate the digital age worker, and creating a vibrant life in the urban village around it.



4.1

INTRODUCTION & SITE ANALYSIS

LOCATION

The design site is located in the upstate of South Carolina, USA. South Carolina is a state on the east coast of the USA. More precisely, the design site is located in Greenville county where the population is 451,225 [56] Greenville, SC, is a major manufacturing hub in the south east region of the United States. It is located on highway 85 halfway between Atlanta, GA, and Charlotte, NC. Recent growth in the manufacturing and the robotics industries has led to substantial growth in the job industries in the area. Major factories in the area include BMW, General Electric, Bosch, Michelin, etc.

CLIMATE

The climate in the upstate South Carolina is subtropical: extremely humid, with hot summers and mild winters. The monthly average high varies from 52°F (11°C) to 90°F (32°C) and the monthly average low varies from 30 °F (-1°C) to 68 °F (20°C). The average annual rainfall is 50 inch (1274 mm). [57]

The area is not prone to natural disasters, the only threats from natural disasters are minor flooding from hurricanes and in low lying areas and a mild risk of tornadoes. There are areas in the lower part of the state where the risk of high winds and storm surges have affected local building codes. However, no major changes to the building codes in the upstate have been made as a result of the threat of natural disasters.

56 Current Greenville County, South Carolina Population, Demographics and stats in 2016, 2017

57 U.S. Climate Data. 2017



SOUTH CAROLINA, USA



**GREENVILLE COUNTY,
SOUTH CAROLINA**

BUILDING CULTURE

The sun is harsher in the south and that leads to certain building traditions. Shallow roof pitches, long overhangs and large, covered front porches are all part of the building culture in the south, becoming popular because they were effective ways of blocking the sun, keeping the homes cool in the summer.

Building materials have typically been brick and wood, although lately wood siding has been replaced with cement boards or vinyl siding since wood siding requires much more maintenance under the hot southern sun.

Because of the subtropical climate and mild winters, exterior walls don't need as much insulation as they do in cooler climates. Insulation is in place more to keep the house cool in the summer than warm in the winter so other factors, such as roof color and attic ventilation are important to consider.

Outdoor living is extremely important, since the weather is fairly warm throughout the year - people spend a lot of time outdoors. During warm summer evenings, people move outdoors to nicer temperatures.

BUILDING CODES

Due to the location of this project and the different building codes enforced in the jurisdiction of the locality, it is worth mentioning which codes differ greatly from those in Finland. The biggest differences are due to the milder winters. The frost line in the southern United States only goes down a few inches in the coldest winter, so foundations do not have to go very deep into the hard southern clay. Insulation, as previously mentioned, is also not required to be nearly as thick as in Finland, meaning exterior framing is generally much thinner. Front doors and other exterior doors generally open inward and there is no code for sealed entry rooms. Structural codes in the southeast are still based on IECC codes, though, with some exceptions depending on the locality.

RAILWAY CONNECTIONS

Like many other mill villages, Taylors Mill was built next to railway tracks for easy access to raw materials. This map is showing the existing railway network and connections to surrounding cities. (Most of them neighboring mill towns) In expanding the passenger railway system along the existing freight rails, Taylors Mill would have even more potential of becoming a hub for the digital age workers - where surrounding cities are just a short train ride away.

ASHEVILLE

TAYLORS
MILL

CHARLOTTE

GREENVILLE

Spartanburg

Clemson

Anderson

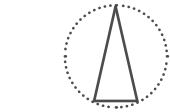
Laurens

COLUMBIA

ATLANTA

AUGUSTA

CHARLESTON

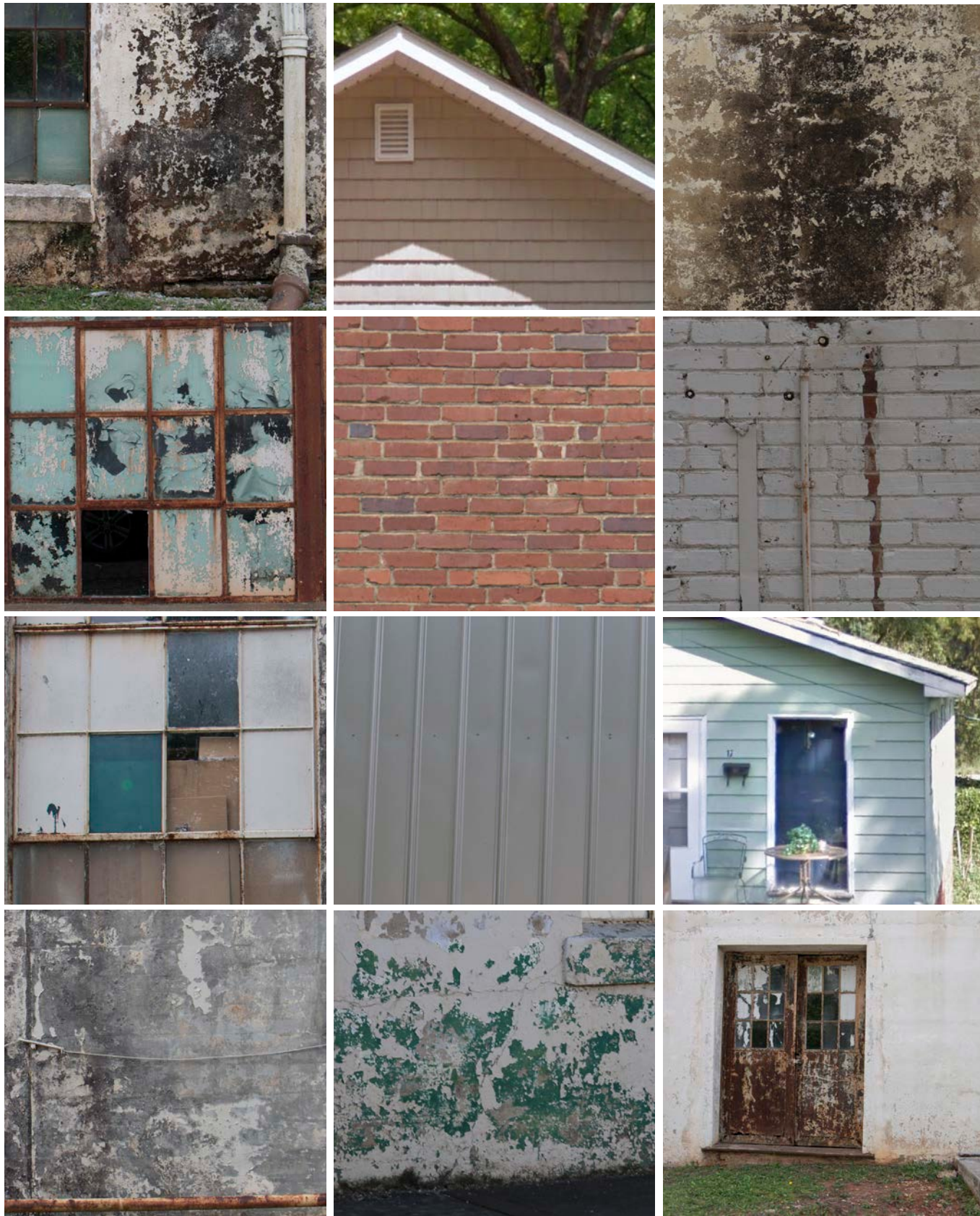






DESIGN SITE

Taylors Mill is bordered by railway tracks on its South side and a river on its North side. There are mainly residential neighborhoods around the mill but it is immediately surrounded by untouched natural forest.



EXISTING MATERIALS & COLOR SCHEME

Inspiration for materials used comes from the surrounding area:
metals, rustic brick, copper, wood siding, wood shakes, stucco, etc.

Elements from the old are incorporated, but a fresh clean look is brought in that still blends
in with the existing derelict mill environment.

PROPOSED MATERIALS & COLOR SCHEME IN NEW BUILDINGS



<div>STRENGTHS</div> <div> <div>repurposed textile mill provides a lot of space (workshops/ studios/ offices/ retail space/ apartments..)</div> <div>already businesses like coffee shop and brewery have established stable clientele</div> <div>derelict charm is drawing people in</div> <div>surrounded by natural forest</div> <div>already businesses like coffee shop and brewery have established stable clientail</div> <div>lot of cheap space to build new housing</div> <div>convenient to downtown Greenville</div> <div>large cult following</div> <div>located next to existing railroad tracks</div> </div> <div>S</div>	<div>WEAKNESSES</div> <div> <div>not convenient to any existing public transportation</div> <div>original mill houses are delapidated</div> <div>poor area -> crime</div> <div>unplanned infrastructure</div> </div> <div>W</div>
<div>OPPORTUNITIES</div> <div> <div>growth revival in the mill</div> <div>derelict charm is drawing people in</div> <div>high ceilings in the mill buildings - provides great platform for design</div> <div>people are looking for more affordable living options</div> <div>work & living close by</div> <div>possibly connecting to other cities & surrounding areas via rail</div> <div>popular area among young people</div> <div>platform for new type or living typologies</div> </div> <div>O</div>	<div>THREATS</div> <div> <div>irreparable structural damage</div> <div>failure of businesses to grow in the area</div> <div>delay in gentrification of the surrounding area</div> </div> <div>T</div>



4.2 MASTER PLAN - 21ST CENTURY MILL VILLAGE



- 4.2.1 THE MILL**
 - 4.2.1.1 Repurposed mill building as the core of the hub
 - 4.2.1.2 Public spaces & connections
- 4.2.2 THE VILLAGE**
 - 4.2.2.1 Modular building concept as a design tool
 - 4.2.2.2 New housing area & Shared spaces
 - 4.2.2.3 Housing typologies





4.2.1 THE MILL

4.2.1.1 REPURPOSED MILL BUILDING AS THE CORE OF THE HUB



TAYLORS MILL - HISTORY & INTRODUCTION

Taylors Mill was operational between 1924 and 1965 as a Bleachery and Print Works for the textile industry. Since then, the Mill sat mostly empty for over 50 years. During the time that the mill sat empty, the surrounding community fell into poverty and the mill fell into disrepair. In the late 90's and early 2000's, local artists began squatting in the mill, using the vast disused space as artist workshops and studios.

A local businessman purchased the mill in 2008 and began renting out these spaces to small businesses and artists, offering a low-rent alternative for many local craftspeople. Today, over 90 businesses operate out of the mill, including a brewery, coffee shop, coffee roaster, event space, antique store, and many workshops and studios. [58]

The mill is in the process of bouncing back from years of dilapidation, but the mill village has not yet reciprocated in this revitalization.

The commissioning company recently purchased a large portion of the Taylors Mill property, including 12 acres of raw land, 6 original mill houses and a large portion of the old factory buildings. The company owner and investors would like to see the mill building used as a space for corporate retreats and the houses integrated with a new concept of housing for the 21st century mill village—a place for the high tech and creative tenants of the mill to live close to their work and fully immerse themselves in this vibrant, creative, and self sufficient community.

58 Taylors Mill

EXISTING EVENTS & ACTIVITIES & BUSINESSES

In addition to the businesses and workshops currently located in the repurposed factory building at Taylors Mill, the town of Taylors in collaboration with local businesses, has put together some community events using the space to bring life back to the mill. The largest of these events is the Taylors Mill Farmers Market, held weekly during the summers. There are also craft parades, art shows, and spring and fall festivals at the mill where the local artisans can showcase their wares, and people can get together to enjoy the community and unique space presented by the mill.

The Taylors mill is on its way to becoming quite a vibrant place for the community, but in order to continue attracting people and grow the numbers attending these events, the community surrounding the mill has to get involved and embrace the progress. In this type of village setting, the mill needs the people around it to rally in support and utilize the space for gathering and growing as a community, and the people need the mill to provide the third place and community that they so need to live a vibrant and healthy life as a member of a community.

THE CORE OF THE HUB

The importance of providing a new type of collaborative community for the digital age worker was presented in the earlier chapter of this thesis. The nature of work is changing and so are the workplaces, so new solutions are needed to accommodate this new type of worker. “The new mill - a hub to accommodate the digital age worker” is a concept of creating a hub in the center of the new village community to accommodate a wide variety of public spaces, commercial spaces, shared spaces, offices, studios, and coworking spaces. In providing these spaces for people to work in a collaborative and open environment, the door is opened to new types of collaboration, shared knowledge, and innovation on a whole new level.

REPURPOSED FACTORY BUILDING - PROPOSED FUNCTIONS

The old factory building will be turned into a mixed-use building with commercial and residential spaces with a focus on providing new types of coworking spaces: workshops, studios, offices.



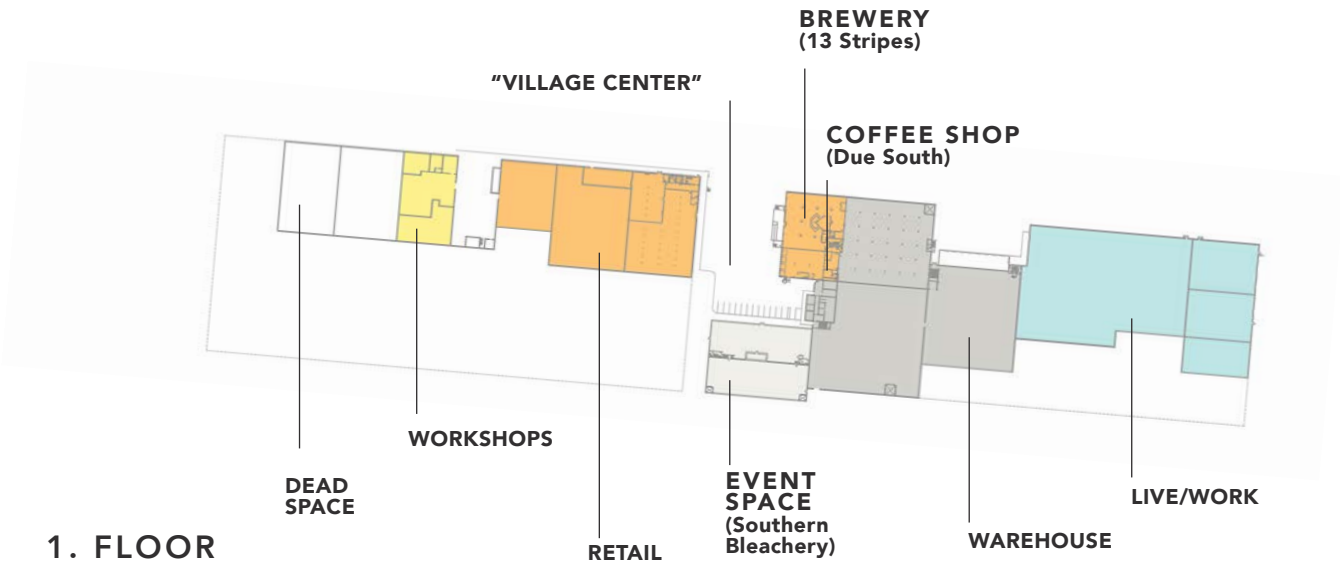
3. FLOOR



2. FLOOR

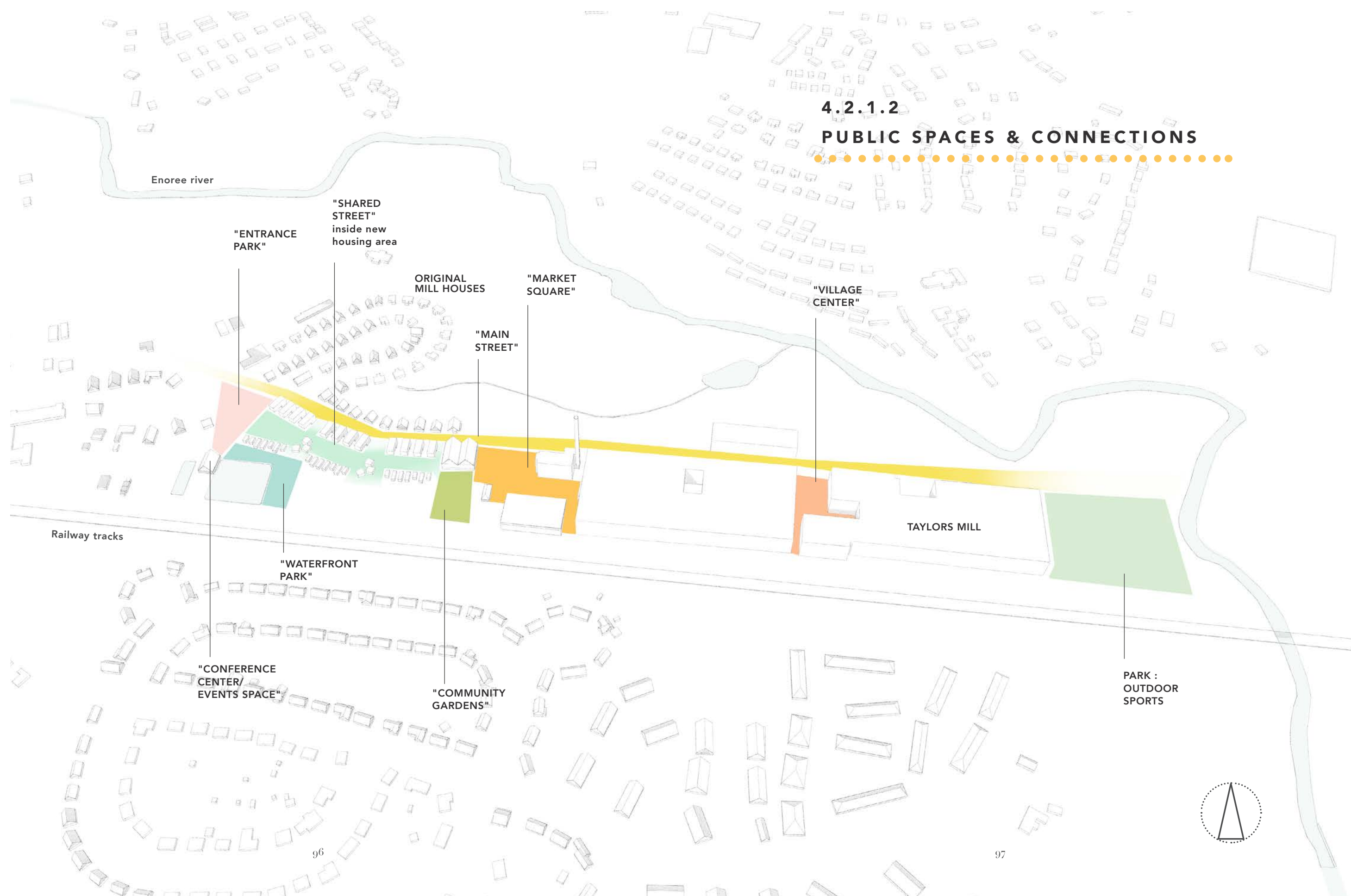


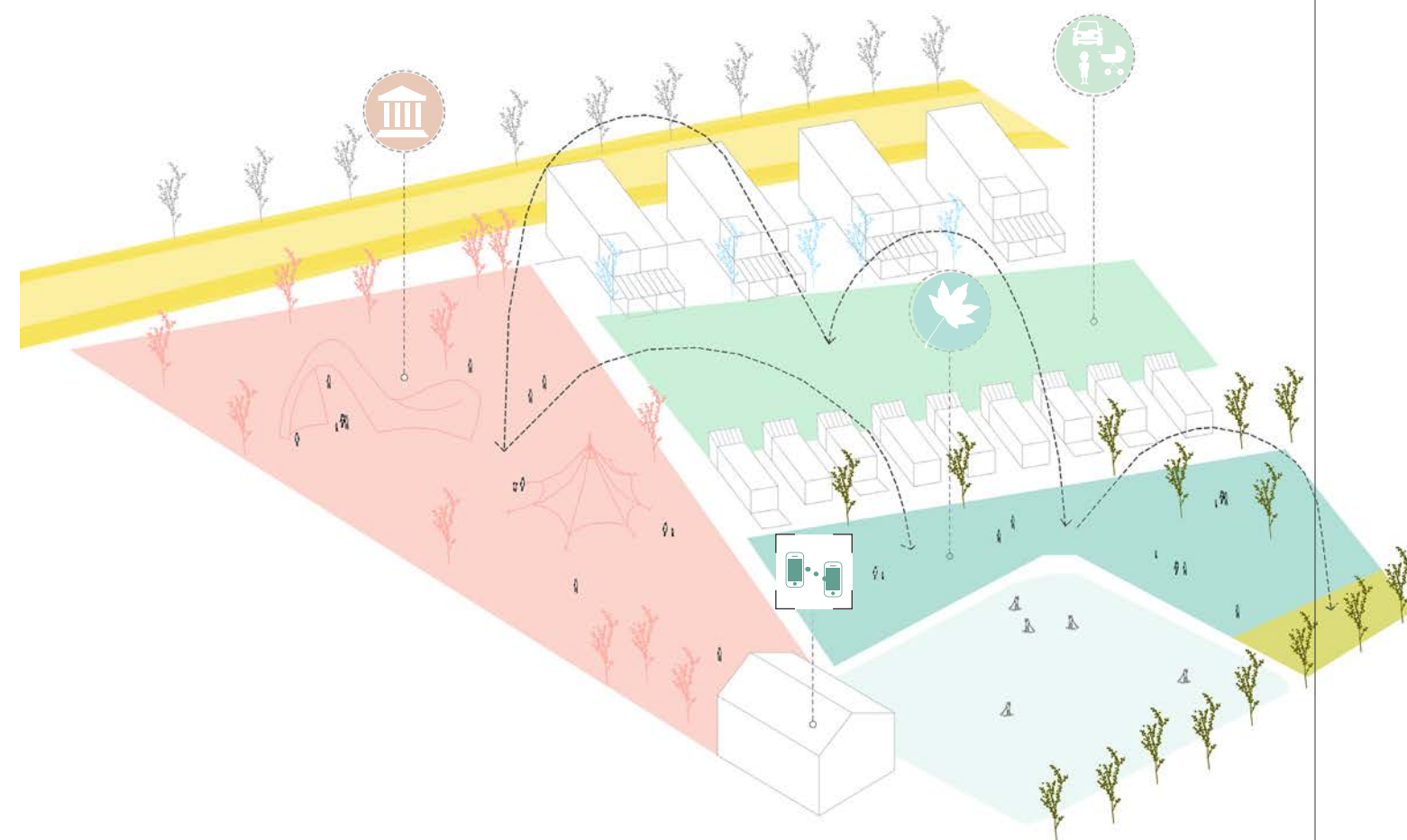
1. FLOOR



4.2.1.2

PUBLIC SPACES & CONNECTIONS





ENTRANCE PARK -OUTDOOR EVENTS

The entrance serves the purpose of welcoming people to the village, providing a park that is open to the public, a space for everyone in the extended community to gather. The park can host outdoor events, concerts, and exhibitions. The park also doubles as outdoor event space for the conference center.



CONFERENCE CENTER

The conference building provides a place for conferences and corporate events. It is conveniently located near the micro-homes which can be rented short-term and used as accommodation for people attending events in the area.



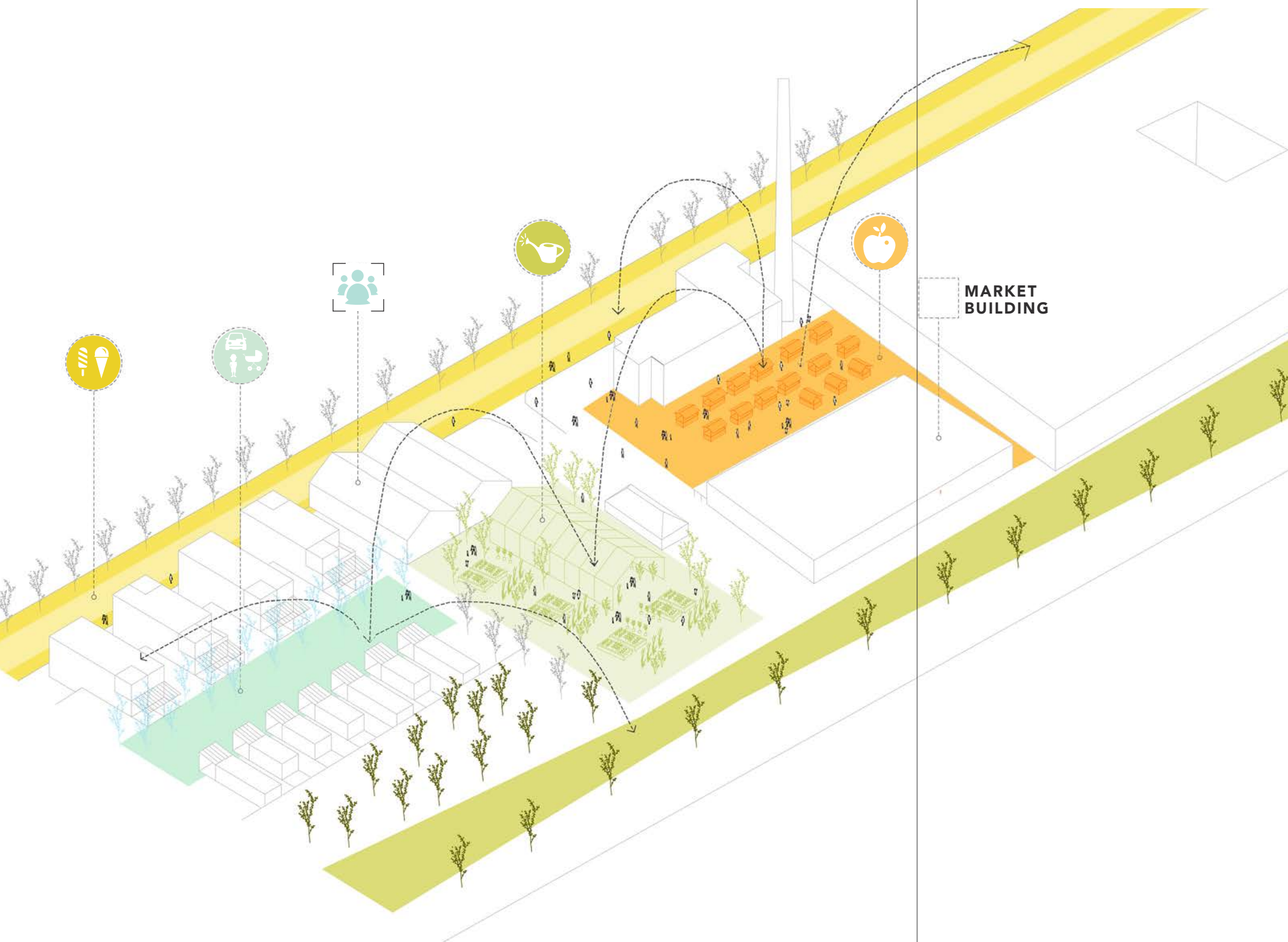
SHARED STREET

The shared street is a semi-public, pedestrian-friendly area between the townhouses and micro-homes. It serves as “the shared front porch” for these homes - a space that encourages inhabitants to interact with neighbors but is still somewhat intimate and not completely public.



WATERFRONT PARK

Located in front of a pond - connecting the water element to the entrance park, while maintaining nice views of nature for the micro-homes that borders the park



MARKET SQUARE

The market square has an important meaning as a public space in a city/ village: A place to socialize and interact with other people; the truest form of public space. It also provides a great space for festivals, farmers markets, etc.

POP-UP EVENTS

The warehouse by the square is set up for different markets and expos and for local artists and craftsmen to sell their products. Houses christmas markets, design markets, flea markets etc.

FARMERS MARKET

Weekly farmers market can be set up indoors or outdoors, bringing locals together and helps introducing new people to the area.



COMMUNITY GARDENS & GREENHOUSES

Urban farming & gardening mixed within the housing area provide easy access to organic local food and freetime activities for inhabitants of the village.



COMMUNITY BUILDING

Provided for the inhabitants of the village, the community building provides shared spaces such as a gym, community room and kitchen, party room, movie room, and laundry.

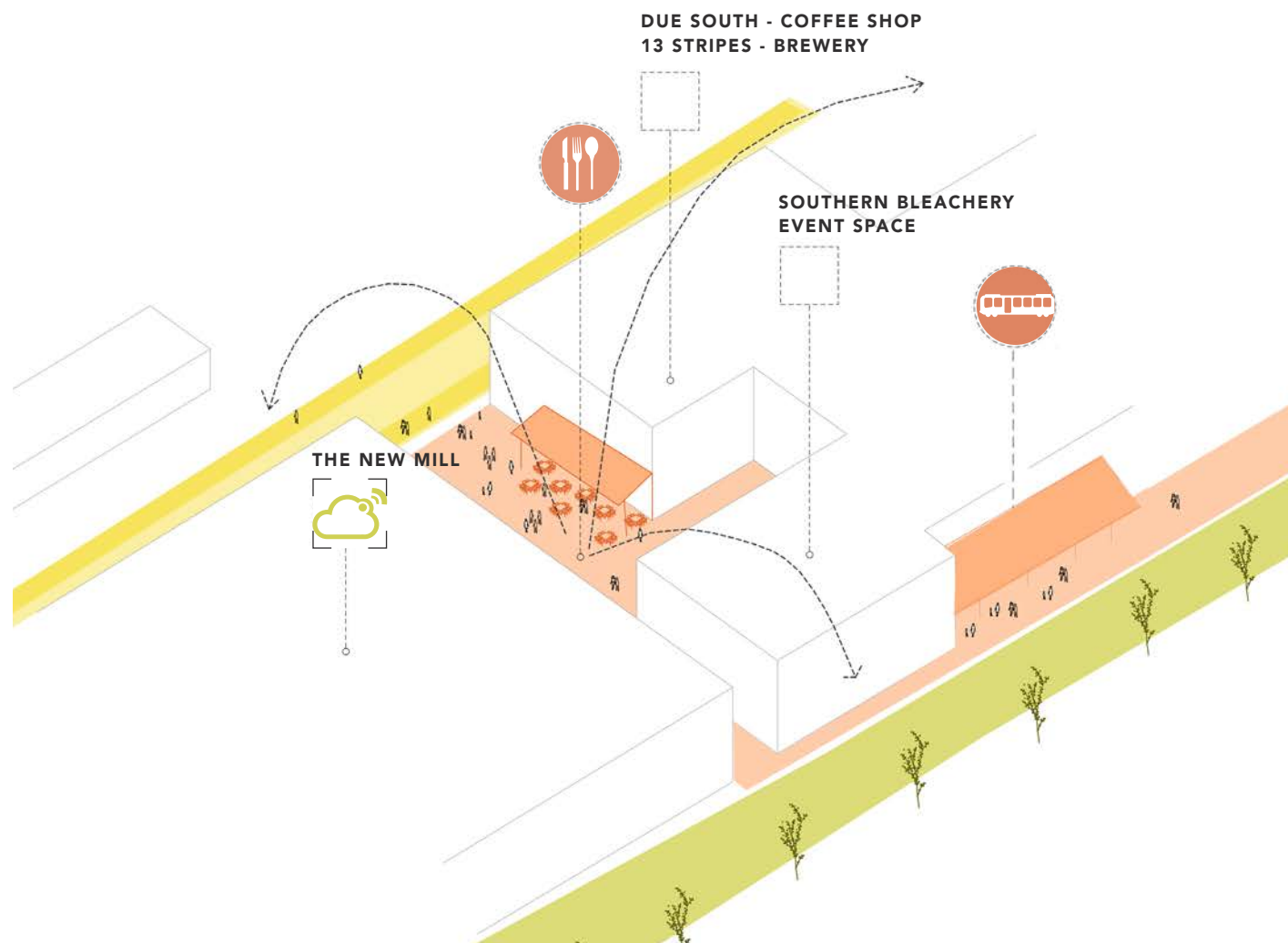


SHARED STREET



MAIN STREET

The main street connects the whole village and it's different spaces from beginning to the end. The main street activates the village, is a mixed use space, and creates a feeling of a true place - something that suburban neighborhoods are missing.



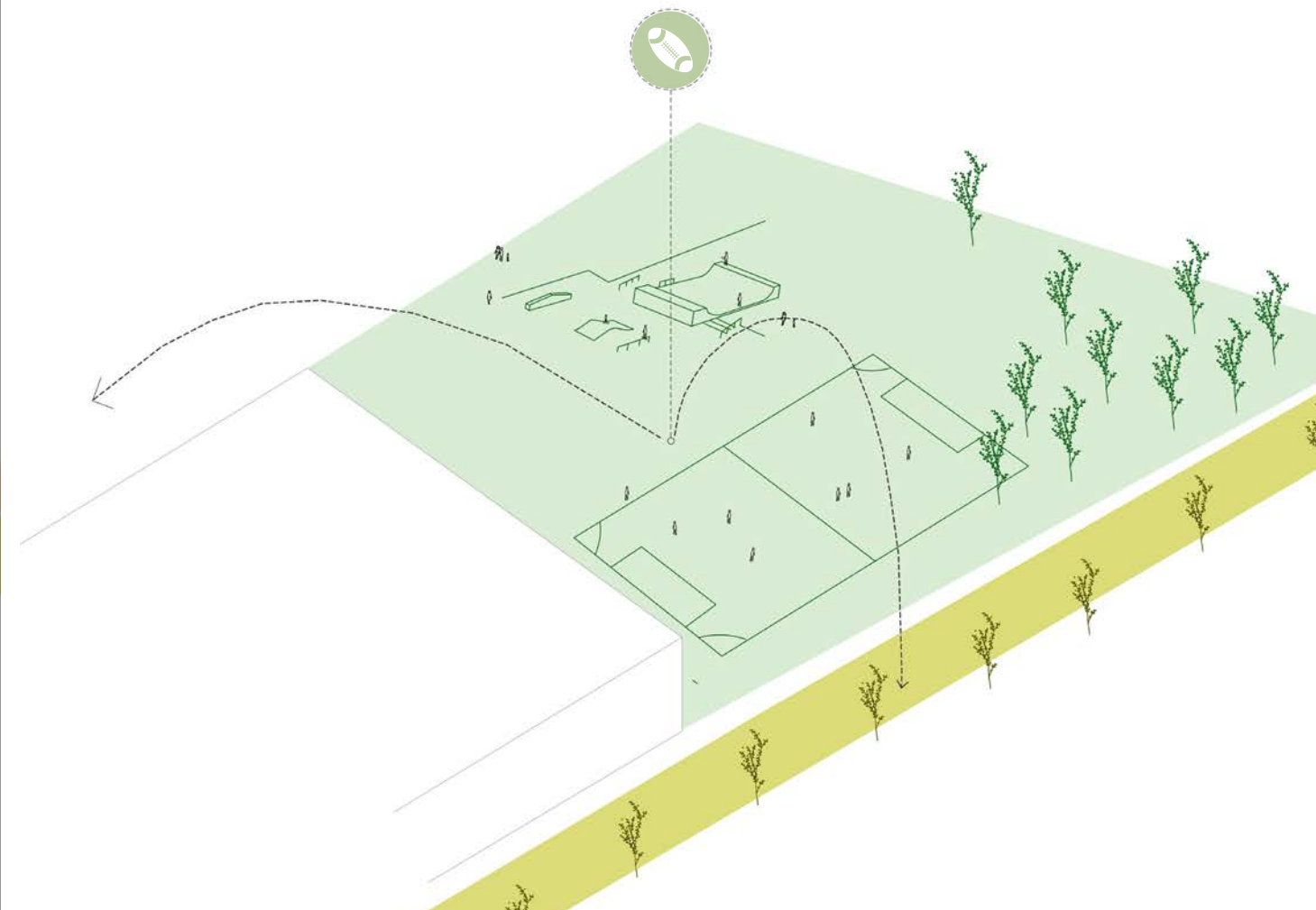
VILLAGE CENTER

The “downtown square” provides life, happening throughout the day: morning coffee, lunch, after work drinks, dinner, etc. This is where the restaurants & cafes with outdoor seating/ terraces, coffee shop, brewery, and event spaces are. Also houses the entry to office spaces/ workshops/ studios. This is the central hub for the digital age worker.



TRAIN STOP

Since Taylors Mill - 21st Century Mill Village is located by the railway tracks, it's logical to connect the village into the railway system and provide public transportation from the village to the surrounding areas.



PARK - OUTDOOR SPORTS

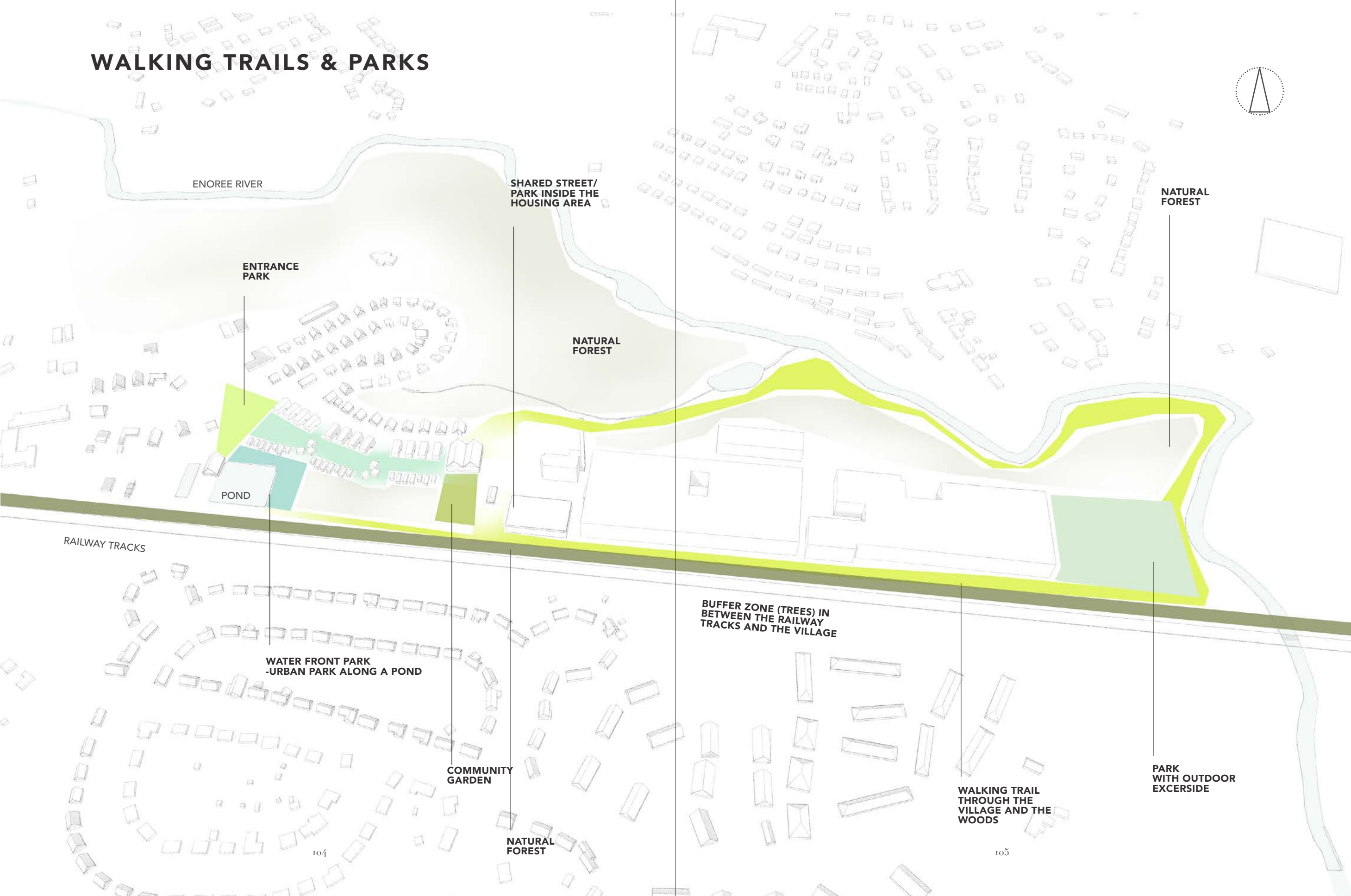
The park provides space for activities like the soccer field, skate park, picnic area, and open space. The park is connected with the walking trails and other parks around the village.



THE NEW MILL

The new mill is the core of the hub that provides collaborative community for the digital age worker along with workshops, studios, coworking spaces etc.

WALKING TRAILS & PARKS



ENOREE RIVER

SHARED STREET/
PARK INSIDE THE
HOUSING AREA

NATURAL
FOREST

ENTRANCE
PARK

NATURAL
FOREST

POND

RAILWAY TRACKS

WATER FRONT PARK
-URBAN PARK ALONG A POND

COMMUNITY
GARDEN

BUFFER ZONE (TREES) IN
BETWEEN THE RAILWAY
TRACKS AND THE VILLAGE

NATURAL
FOREST

WALKING TRAIL
THROUGH THE
VILLAGE AND THE
WOODS

PARK
WITH OUTDOOR
EXCERSIDE



ENTRY TO TAYLORS MILL VILLAGE

4.2.2

THE VILLAGE

4.2.2.1

MODULAR BUILDING CONCEPT AS A DESIGN TOOL

WHAT

The idea behind the modular building concept is to offer a flexible yet affordable way to design and build several different housing typologies with only few different modules.

HOW

In this concept design, the core of the modular building system is a square module, and by combining these modules, multiple variations and housing typologies can be made. There are ultimately three different types of modules: technical module, basic room module and outdoor living module.

This thesis is using the modular building concept as a design tool to create different housing typologies rather than offering a detailed structural solution for modular building. The modules presented in this project could be designed further in order to come up with smart and affordable modules for manufacturing purposes. Modules are designed so they can be manufactured in a factory and transported to the site on a truck to ensure quicker construction time and possibility of mass production if needed.

TO WHOM

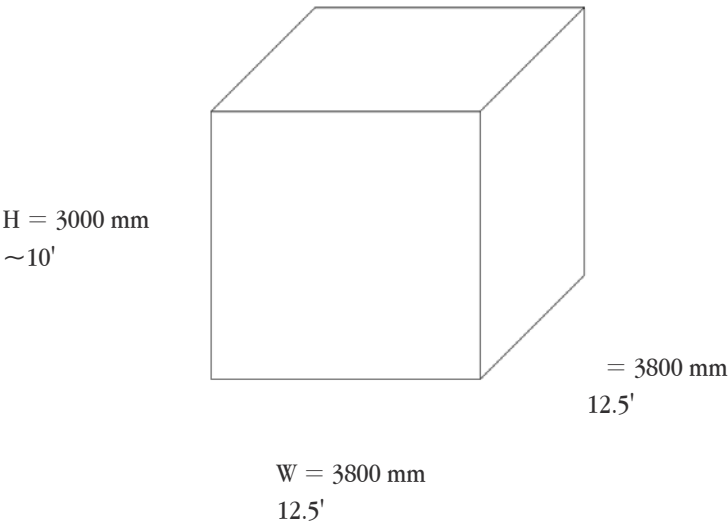
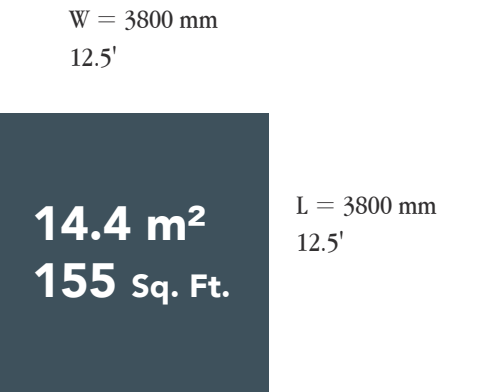
The old textile mill area attracts a lot of people who are looking for workshops/ studio space/ retail space with low rent costs due to the sheer quantity of space available in a relatively rural area. People are also drawn in by the derelict charm and creative community being fostered by the owners of the mill and the collaborative community that works there. The old mill factory, Taylors Mill, currently has over 90 tenants who are renting a space from the mill and working there. Like in the original mill village concept, housing is provided close to the mill so workers can live and work close by and share a village community with other people working at the mill. The original mill houses were designed for traditional nuclear families and do not always meet the needs of the digital age worker/ individual. Since many of the people looking for accommodation in the village are singles, it's important to provide community to prevent loneliness and isolation - that's why common/ shared spaces around the village are additional living space for people living in the village .

The modular housing concept improves affordability of the housing typologies, offering greater incentive to the potential long-term tenants, but it is also great for short-term rentals. People attending an event in one of the mill's event spaces, business travelers, or someone looking for a temporary housing option could all benefit from the availability of a minimal, short term housing option. Offering affordable, small private living space inside of a shared community is a great option for either long term or short term rentals - and especially for those unsure what their plans might be.

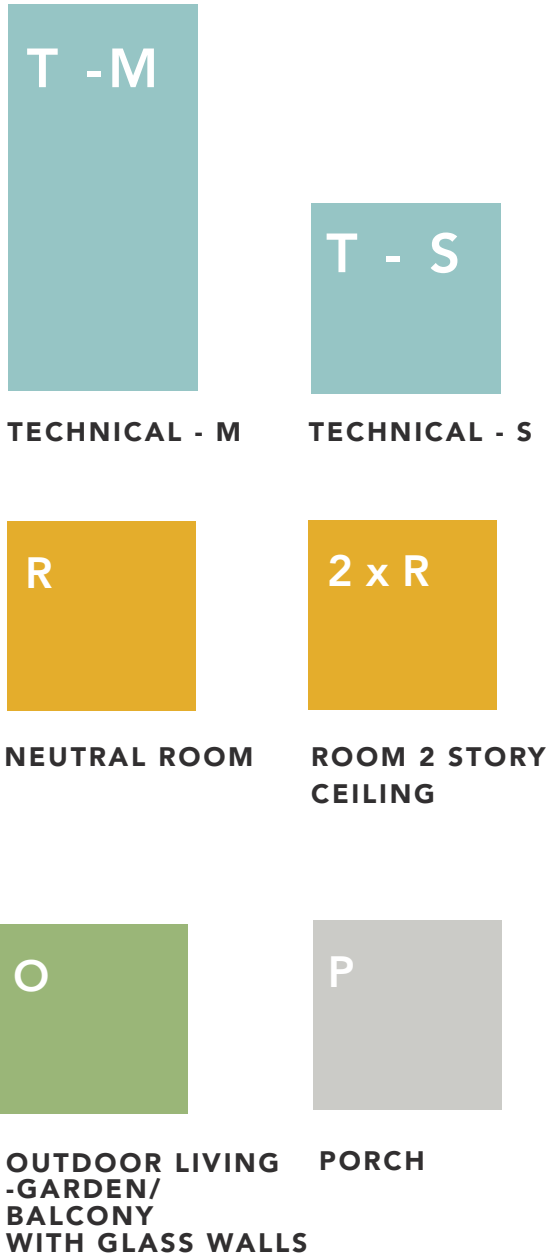
With the modular building system - the same modules designed for this 21st century mill village at Taylors Mill can be used in any similar old factory village setting, or in areas that needs revitalization and easy way to bring flexible, affording housing options.

CORE OF THE MODULE

The modules comes in a standard size 3800mm x 3800mm
12.5' x 12.5' / inside the unit measurement, so each module is 14.4 m² (155 Sq.Ft.)



MODULES

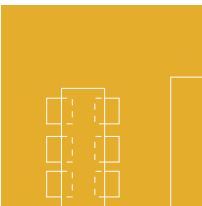


T - M / T - S =Technical module includes all plumbing. Bathrooms and kitchen are located in this module, along with the staircase in the two story modules.

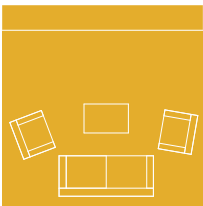
R = The neutral room module is added to the technical module to create many different types of homes. The neutral room can be used as a bedroom, office, living space, dining room, etc.
2 X R = Neutral room with 2 story open ceiling

O = Outdoor living module is an extension of living space. Can be garden/ balcony with glass walls or uncovered balcony
P = Porch is on the ground level, the main or secondary access to the house is through the porch

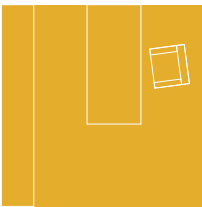
DIFFERENT USES FOR NEUTRAL ROOM



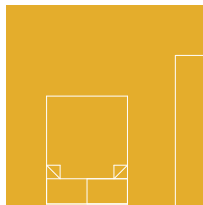
DINING ROOM



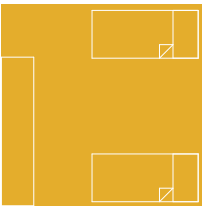
LIVING ROOM /
TV ROOM



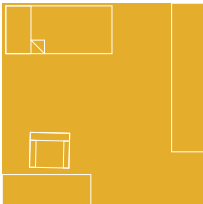
HOME OFFICE/
LIBRARY



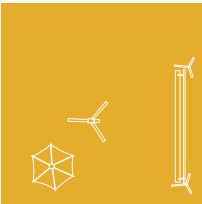
MASTER
BEDROOM



BEDROOM FOR 2



BEDROOM
WITH DESK



SMALL BUSINESS
- PHOTOGRAPHY
STUDIO



STUDIO - ATELIER

NEUTRAL ROOM AS A BASIC UNIT

The basic unit - room - is a neutral space which can be used in many different ways and can be adapted to many different functions. It is always attached to a technical module in order to create a functioning home, since the technical module holds all the plumbing and mechanical equipment.

Standardizing these other rooms in the house into a multifunctional space makes the building more flexible, affordable, and easier to construct. The same space can meet the needs of many different people, be flexible during different life situations, and can serve a wide variety of purposes.

The Neutral room will adapt to the individual's/ family's needs throughout different situations in their life: for example, a bedroom can be turned into an office or library room later in life when the kids move out, and an extra sitting area can be turned into a nursery/ guest room/ bedroom if life situations change.

The Neutral room as a basic unit also provides a great opportunity for shared/ communal living since rooms can be used as equal bedrooms for each roommate or changed into living space, if one roommate moves away.

4.2.2.2 NEW HOUSING AREA & SHARED SPACES

M-L

infill mill houses

L+W

live + work

S-M

town houses

XS

micro homes



shared spaces

SCALE 1:2000

VIEW OVER
SMALLER HOUSES

VIEW OVER
SMALLER HOUSES

SCALE 1:500



SCALE 1:2000

SHARED SPACES & LEVELS OF PRIVACY

4

SHARED PRIVATE SPACES - SHARED WITH NEXT-DOOR NEIGHBORS
Outdoor living: balconies, terrace - shared between 2 private homes

3

SEMI-PRIVATE SPACES - SHARED WITH THE HOUSING COMMUNITY
Extended living space, "party-room" with kitchen & dining, "mini movie theater", utility room/laundry, rooftop terraces

2

SEMI-PUBLIC SPACES - SHARED WITHIN IN THE HOUSING AREA
BUT ACCESSED ALSO BY OTHERS
Playgrounds, grilling areas, community gardens, shared street in between the houses

1

PUBLIC SPACES - SHARED WITHIN THE WHOLE VILLAGE COMMUNITY
Public squares, downtown area, parks, main street, walking trails and common areas such as the playgrounds, gym and other sports facilities.



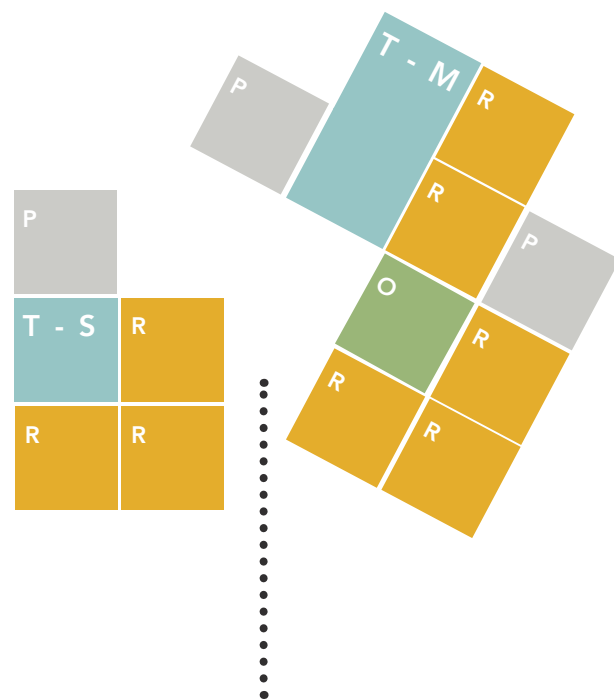
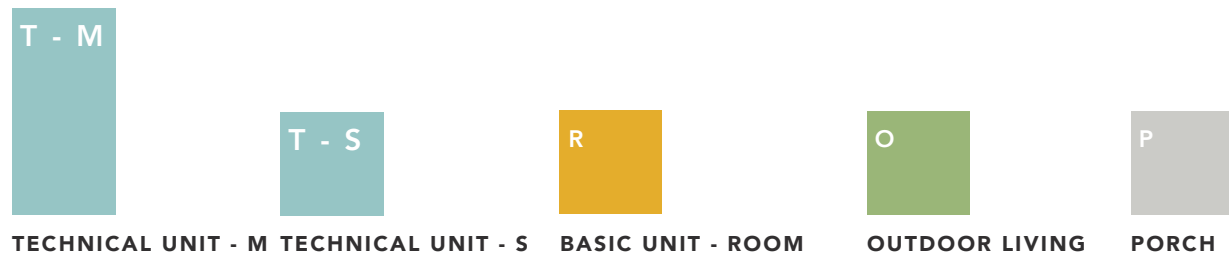
SHARED STREET = "SHARED FRONT PORCH"

ENSURING SOME PRIVACY WHILE ENCOURAGING COMMUNITY

With more millennials choosing to forgo the nuclear family to stay single or focus on their careers, something must be done in regards to the isolation and loneliness that is becoming more common among young single people. [59]

In response to the need among young people for human connection and community, a new type of front porch has been designed to encourage people to step outside of their comfort zones. In addition to each household having a private porch, the whole row of apartments now share a "front porch" - a shared street in between the houses with community buildings that the whole neighborhood can use and where they can interact with their friends and neighbors. It represents the same idea as the traditional american front porch, but in today's america, with strong family structures becoming less prominent, your neighbors become your family. These are the people you reflect on your day with, having after work beers, stopping by the porch for a chat, or stopping by to share news. These are the types of relationships that need to be revived in order to create vibrant and sustainable community.

59 Morgan. 2017. Why Loneliness Affects So Many Young People.



SHARED BUILDINGS
creates interesting outdoor spaces
also around them and forms a
courtyard in the middle of the
buildings

SHARED SPACES

are designed using the same modular concept as
the different housing typologies

Pictured is a one example configuration of a shares
space building.

NEUTRAL ROOM CAN BE USED AS:

"MINI MOVIE THEATRE"

- weekly neighborhood movie nights
- watching sports/ games together

"PARTY ROOM" (connected to kitchen)

- can be reserved for birthday parties, graduation parties etc.
- common events/ parties for the village inhabitants can be held here

"UTILITY/ LAUNDRY ROOM

- especially for short-term micro-home rentals

OUTDOOR LIVING UNITS

can be added on the ground floor as well as on
the 2nd floor creating rooftop gardens/ terraces/
extended outdoor living.

SHARED SPACES & COMMUNITY BUILDINGS

COMMUNITY BUILDING

The existing warehouse next to the new housing area is providing shelter from
the public market square and semi-public community garden, creating a cozier
atmosphere in the housing area. The warehouse is turned into a community
building for the whole housing area to use, including common spaces like a gym,
event space, place for a small-scale daycare etc.

SHARED LIVING SPACE

In addition to the community building, new smaller-scale buildings are placed
inside the housing area along the shared street. Shared buildings are formed by
clusters of smaller buildings and they create outdoor space "courtyards" in the
middle of them. Buildings are placed in the housing area so they are accessed
from three different sides creating easy, welcoming access to the inhabitants on
every side of the housing are to use them.

SHARED SPACES & LEVELS OF PRIVACY

- 4

SHARED PRIVATE SPACES - SHARED WITH NEXT-DOOR NEIGHBORS
- 3

SEMI-PRIVATE SPACES - SHARED WITH THE HOUSING COMMUNITY
- 2

SEMI-PUBLIC SPACES - SHARED WITHIN IN THE HOUSING AREA BUT ACCESSED ALSO BY OTHERS
- 1

PUBLIC SPACES - SHARED WITHIN THE WHOLE VILLAGE COMMUNITY

LEVELS OF ADAPTABILITY

- A

NEUTRAL ROOMS
 Spaces can have multiple functions - The same space can be used in many different ways
- B

FLEXIBILITY
 Increasing / Decreasing space in the house when needed.
- C

HYBRID SPACE
 Same space combines living & working or other activity.

4.2.2.3
 HOUSING TYPOLOGIES

TOWN HOUSES ON MAIN STREET

- L+W

LIVE + WORK

 Sleeping Loft + Workspace/ small business/ retail/ office/ studio.
 Accessed from the main street.
 Shared outdoor living wih the neighbor
 Cart port next to the retail space /house

A

B

C

1

2

3

4
- S-M

TOWN HOUSES

 1-2 Bedrooms
 accessed from the shared street behing the main street
 Semi-private front porch
 Possiblity to private outdoor living
 Shared outdoor living with the neighbor
 Car port next to house

A

B

C

1

2

3

4

MICRO HOMES

- XS

SHORT TERM RENTAL HOUSING
 / SMALL SCALE STUDIO PARTMENTS

 Studio apartment - 1 Bedroom
 Semi-private front porch
 Communal parking lots nearby

A

B

C

1

2

3

4

INFILL MILL HOUSES

- M-L

FAMILY LIVING

 among the original mill houses.
 2-3 Bedrooms
 Private yard
 Parking

A

B

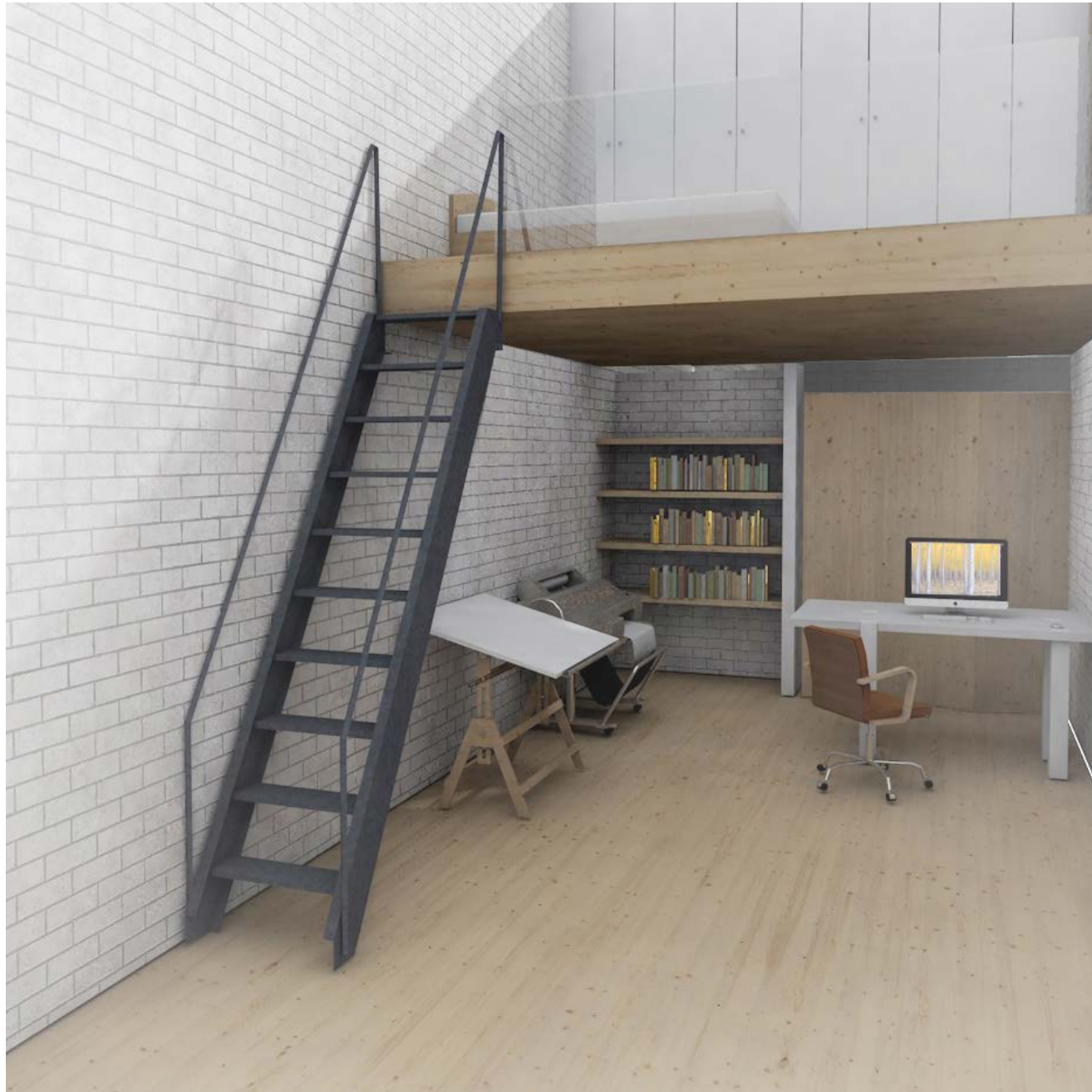
C

1

2

3

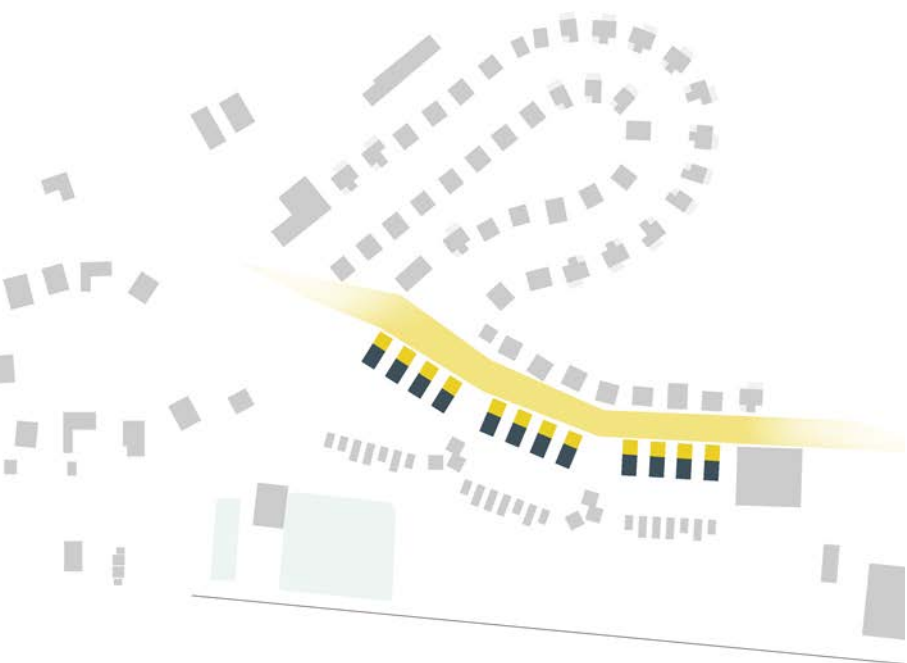
4



LIVE & WORK APARTMENT: OFFICE & SLEEPING LOFT

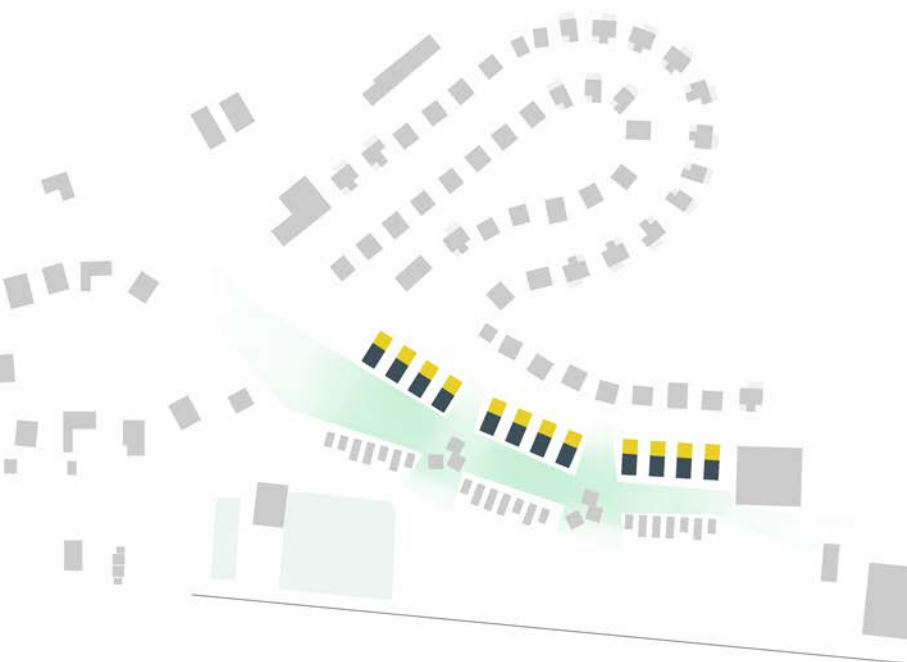


LIVE & WORK APARTMENT: ATELIER/ GALLERY & SLEEPING LOFT



MAIN STREET

Entry to LIVE + WORK



SHARED STREET

Entry to S - M TOWNHOMES

TOWN HOUSES

LIVE + WORK



TOWN HOUSES



WHAT

The townhouses on the main street are designed to define the feeling of an urban area when entering the mill village. Before, there was no definition of a street or an urban structure, which made the initial experience of the village quite vague.

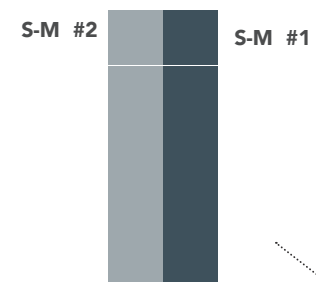
HOW

The Live/Work townhomes are a combination of a retail space or an office and living space. Retail space/ office space is facing the main street - activating the street and bringing life and urban atmosphere to the village. The Living space is connected to the retail/ office space, but the entry is from the backside of the buildings to provide a degree of privacy. The back side of the buildings house larger apartments with 1-2 bedrooms and porches shared with the neighbors. The pedestrian friendly shared street is formed behind the buildings where there is an entry to the apartments and along that street there are parks and shared facilities such as community gardens, grilling areas and playgrounds.

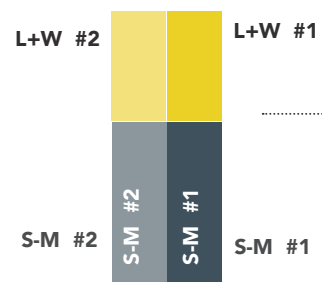
TO WHOM

"The old textile mill area attracts a lot of people who are looking for workshops/ studio space/ retail space with lower rent costs. The old mill factory, Taylors Mill, currently has over 90 tenants who are renting a space from the mill and working there. Like in the original mill village concept, housing is provided close to the mill so workers can live and work close by and share a village community with other people working at the mill."

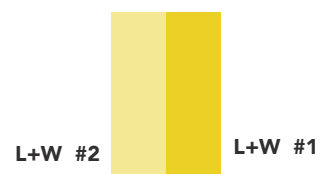
Retail spaces along the main street provide a great opportunity for craftsmen and artists working in the mill to open up a small business and sell their handiwork, while providing ample space for them to work on their crafts after- hours.



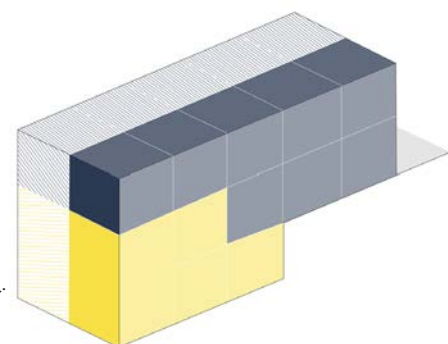
3RD FLOOR



2ND FLOOR

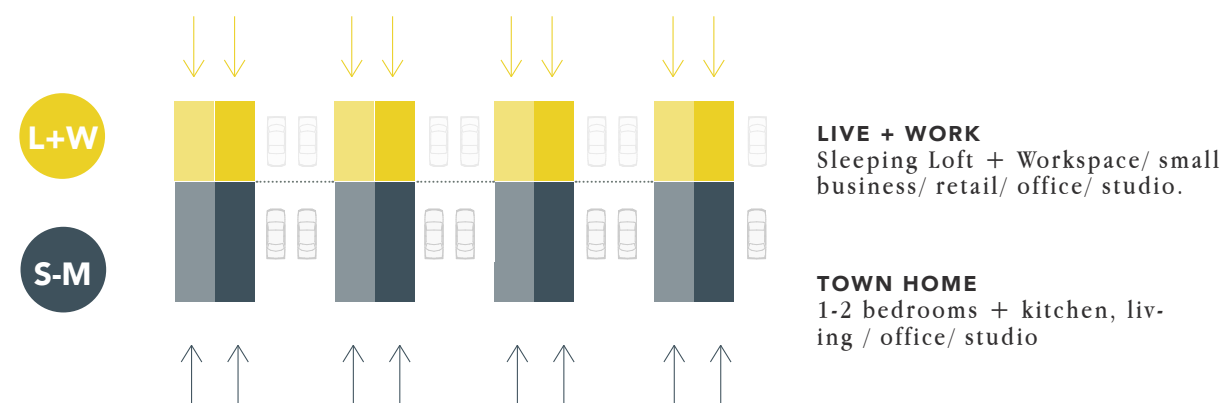


1ST FLOOR

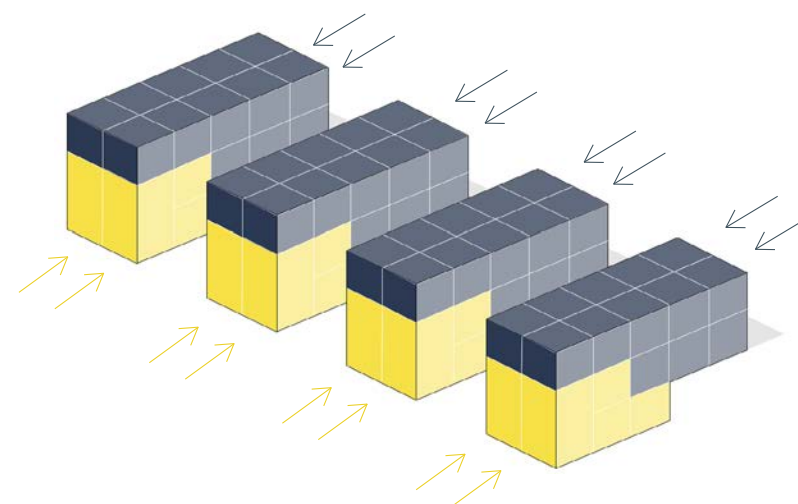


ACCESS TO BUILDING

PUBLIC MAIN STREET - ENTRY TO RETAIL SPACE/ BUSINESS



SEMI-PUBLIC SHARED STREET - ENTRY TO APARTMENTS

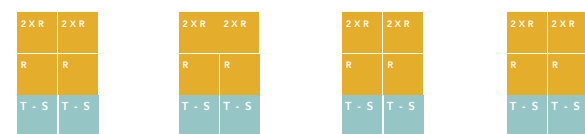




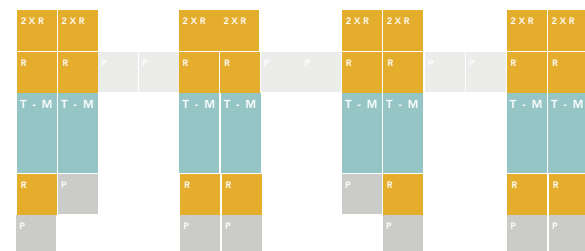
ROOM 2 STORY CEILING



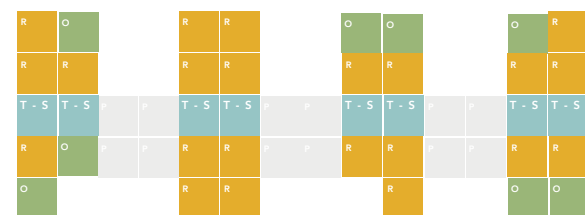
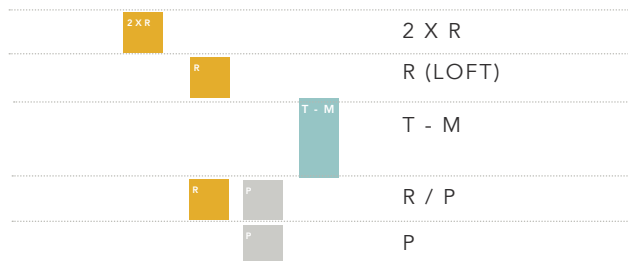
MODULE CHOICES



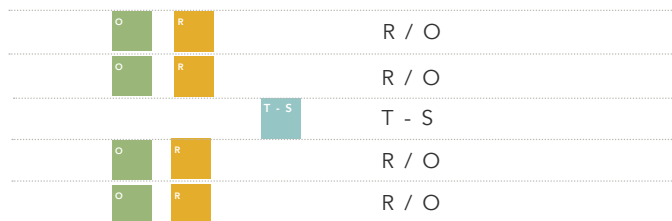
1ST FLOOR



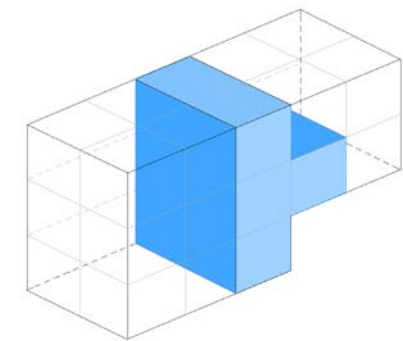
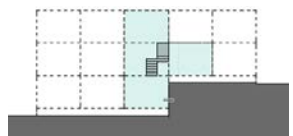
2ND FLOOR



3RD FLOOR



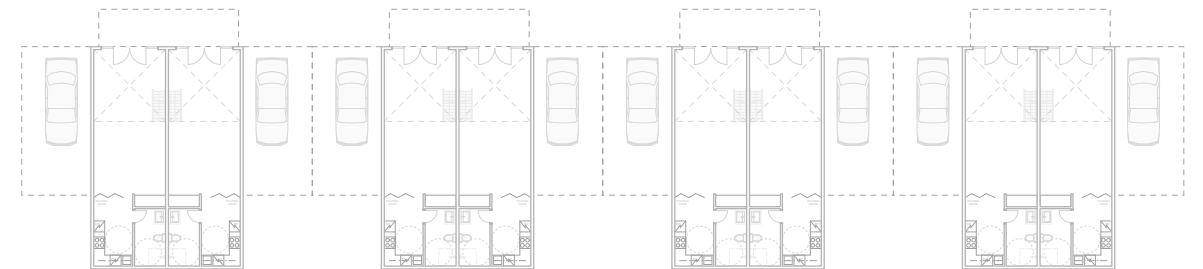
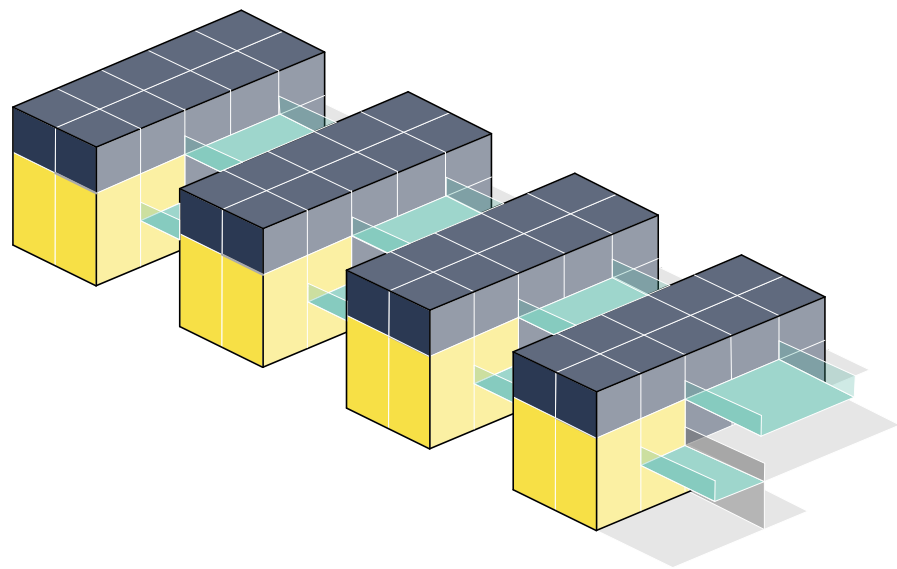
A 4x4 grid of squares. The central 2x2 area is shaded gray. The surrounding squares are white. The grid is bounded by a dashed line.



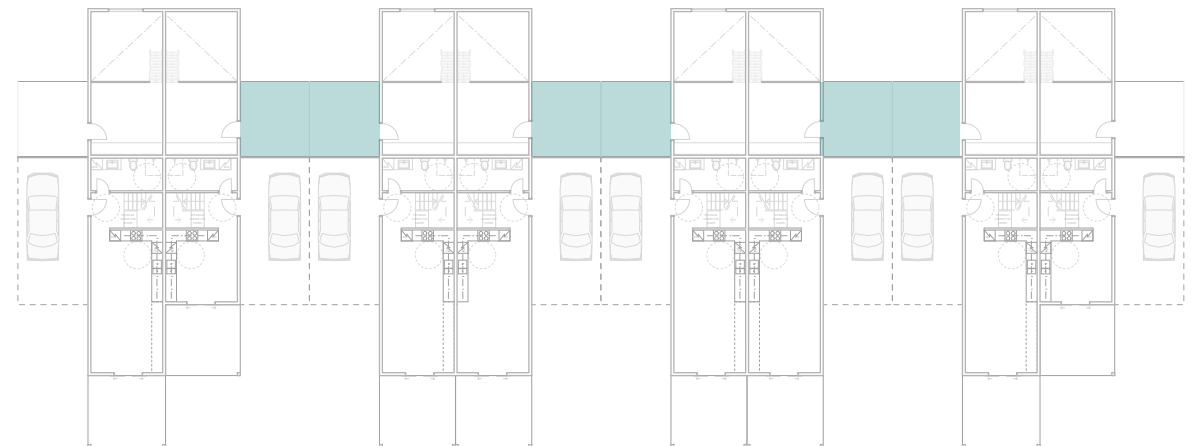
A 3D diagram of a cube divided into eight smaller cubes. The front face is labeled **L + W #1** and is yellow. The top face is labeled **S-M #2** and is grey. The right face is labeled **S-M #1** and is green. The back face is labeled **L + W #2** and is blue. The left face is labeled **S-M #3** and is green. The bottom face is labeled **L + W #3** and is yellow.

SHARED PORCHES BETWEEN HOMES

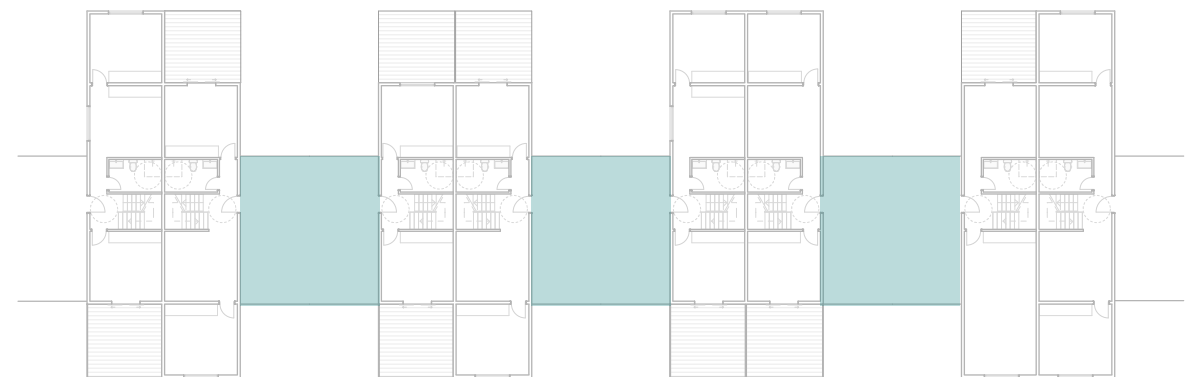
The townhouses are all connected to their neighbors via a shared patio area. This patio area serves to bridge the gap between neighbors and create a space where conversation is always welcome and relationships can be made.



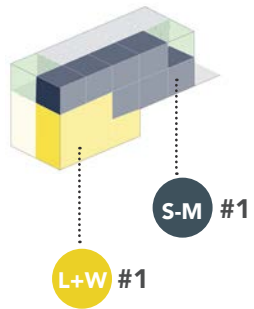
1ST FLOOR



2ND FLOOR



3RD FLOOR



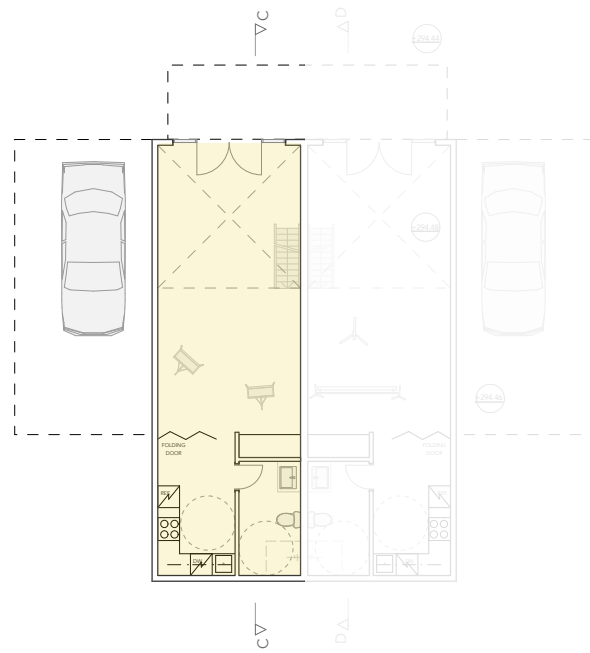
EXAMPLE CONFIGURATION #1

L+W

L + W
Atelier & Gallery space
+ Kitchen & Bath & Sleeping loft
Shared outdoor living
57.6m²

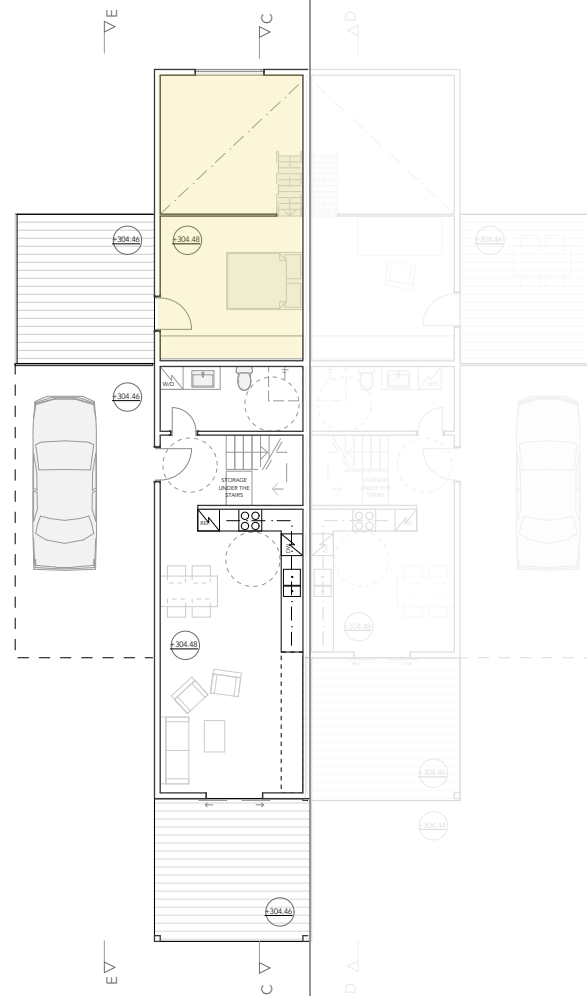
S-M

TOWNHOME
2 Bedrooms & Neutral room & 2 Baths
+ Kitchen & Living
Private & Shared outdoor living
100.8m²



1ST FLOOR

SCALE 1:200



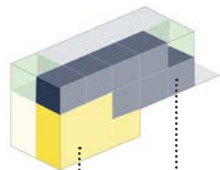
2ND FLOOR

SCALE 1:200



3RD FLOOR

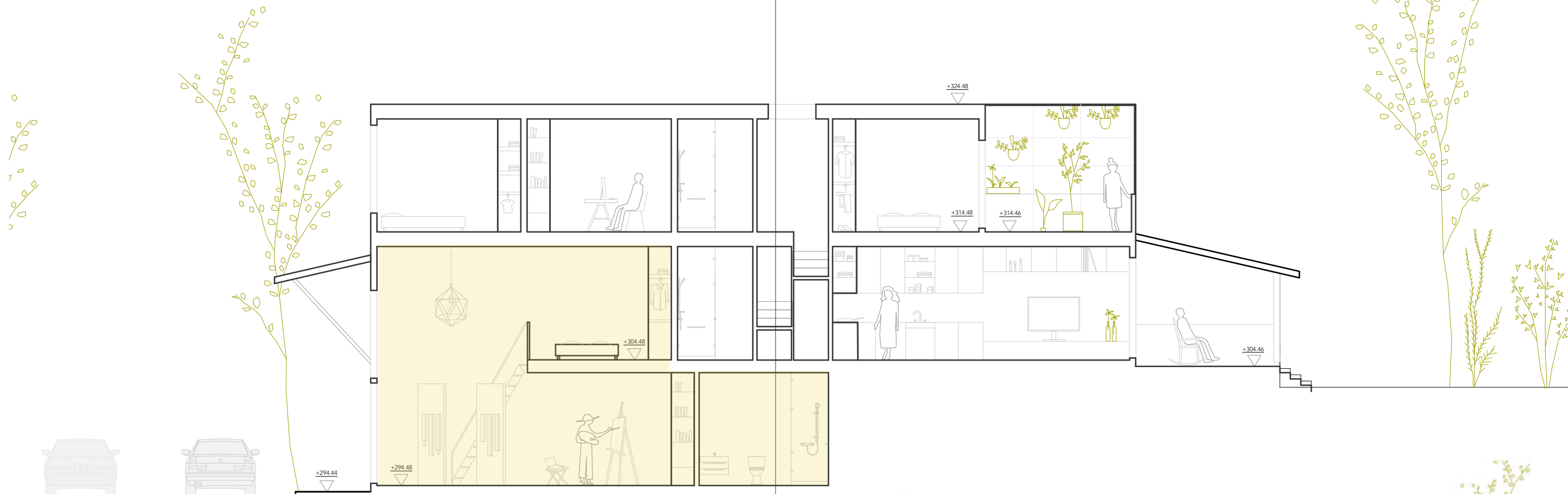
SCALE 1:200



L+W #1

S-M #1

EXAMPLE CONFIGURATION #1



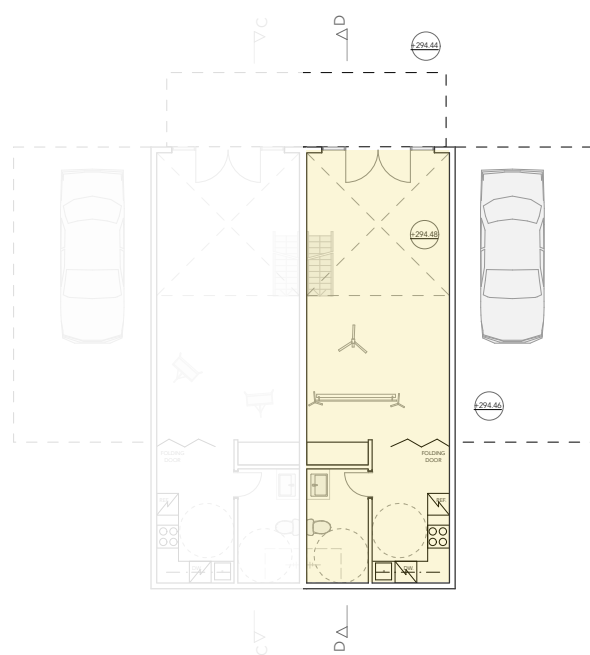
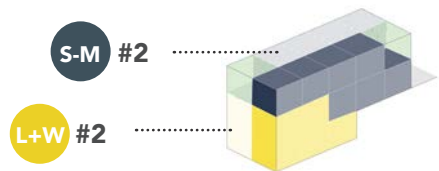
SECTION C - C

SCALE 1:100

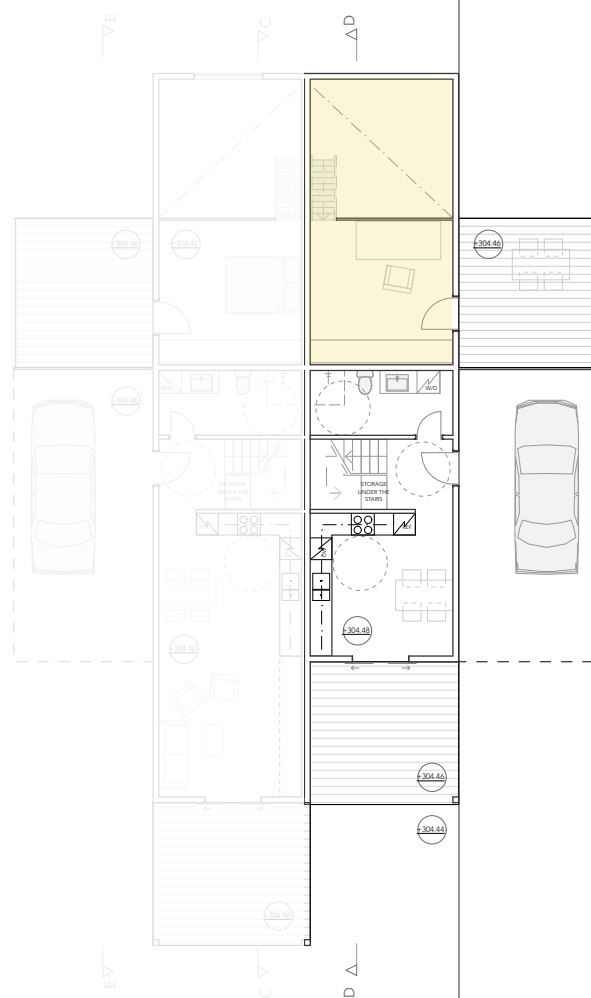


WEST ELEVATION / SECTION E - E

SCALE 1:200



1ST FLOOR SCALE 1:200



2ND FLOOR SCALE 1:200



EXAMPLE CONFIGURATION #2

S-M TOWNHOME
2 Bedrooms 2 Baths
+ Kitchen & Living
Private & Shared outdoor living
86.4m²

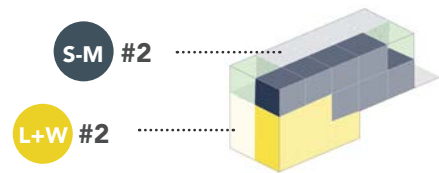


L+W L + W
Small business (Photography studio)
+ Kitchen & Bath & Sleeping loft/ office
Shared outdoor living
57.6m²



3RD FLOOR SCALE 1:200





EXAMPLE CONFIGURATION #2



SECTION D - D

SCALE 1:100



SOUTH ELEVATION / SECTION SCALE 1:200

BRICK
color: rustic brown/red



METAL
horizontal panels
color: dark brown/grey



COPPER
vertical panels
color: green



WOOD
vertical siding
color: rustic brown



NORTH ELEVATION / SECTION SCALE 1:200

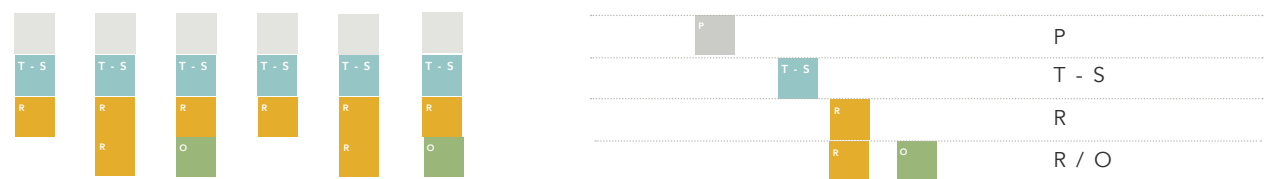


TOWNHOME BEDROOM - VIEW OVER THE MICRO HOMES TO THE FOREST BEHIND THEM

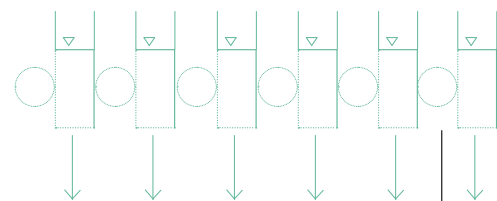
MODULES & POSSIBLE COMBINATIONS



POSSIBLE COMBINATIONS MODULE CHOICES



ACCESS TO HOUSES FROM SHARED STREET
- "THE NEW SHARED FRONT PORCH"



VIEW TO NATURE FROM EACH HOME

SEMI-PRIVATE YARD
IN BETWEEN HOMES

MICRO HOMES

(SMALL PRIVATE LIVING WITH SHARED SPACES)



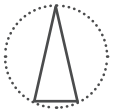
WHAT

One story buildings on the edge of the natural forest (privacy and views to that direction) in the back of the housing area. Minimal private living space - extended living space in common areas and shared spaces.

TO WHOM

The old textile mill area attracts a lot of people who are looking for workshops/ studio space/ retail space with lower rent costs. The old mill factory, Taylors Mill, currently has over 90 tenants who are renting a space from the mill and working there. Like in the original mill village concept, housing is provided close to the mill so workers can live and work close by and share a village community with other people working at the mill. The Micro Homes fulfill a growing need in the area for minimal housing for younger millennials and single people looking for an affordable way out from under their parent's' wing, as well as a low-impact housing solution for the environmentally conscious among us. Since most of the people looking for accommodation in the village are singles, it's important to provide community to prevent loneliness and isolation.

The Micro Homes concept is also great for short-term rentals: people attending an event at of the mill's event spaces, business travelers, or someone looking for a temporary housing option. Offering small private living space inside of a shared community is a modified concept of a hotel - but more fitting in the 21st century village.



EXAMPLE CONFIGURATION 1

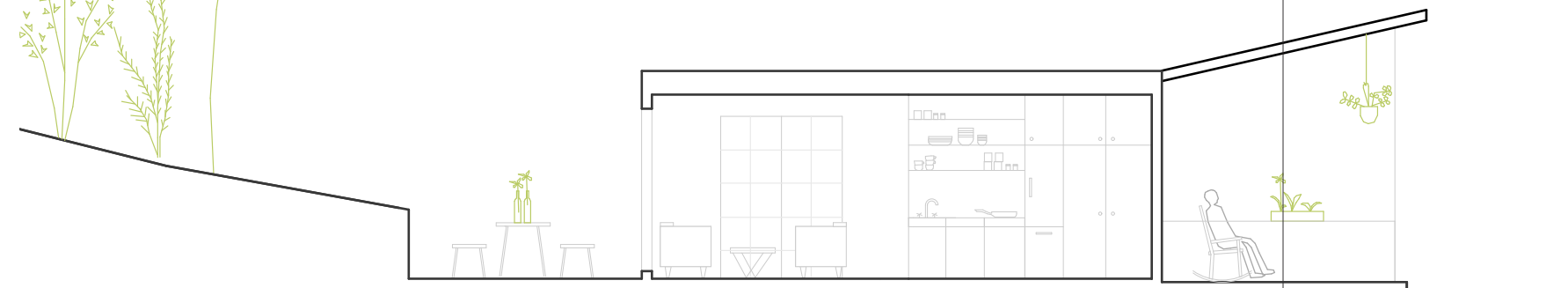
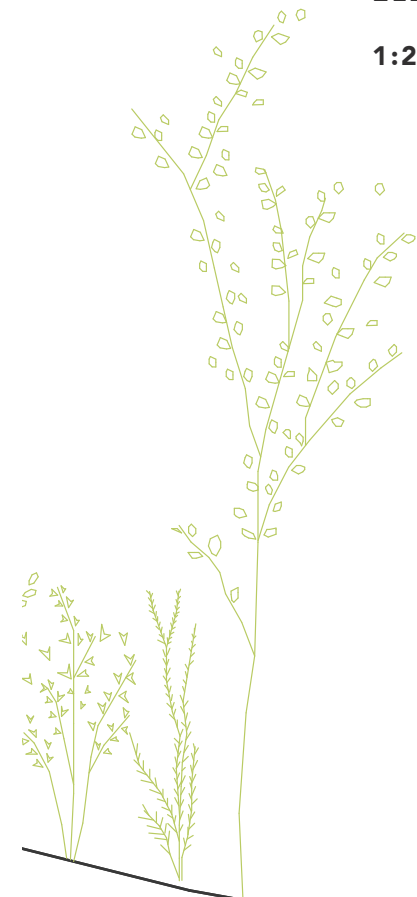
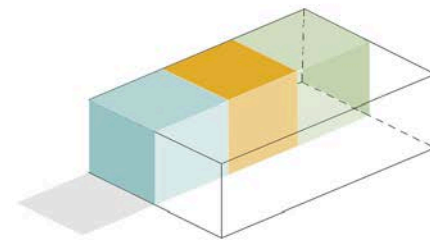
Studio apartment
28.8m² (310 Sq.Ft.)



ELEVATION - WEST

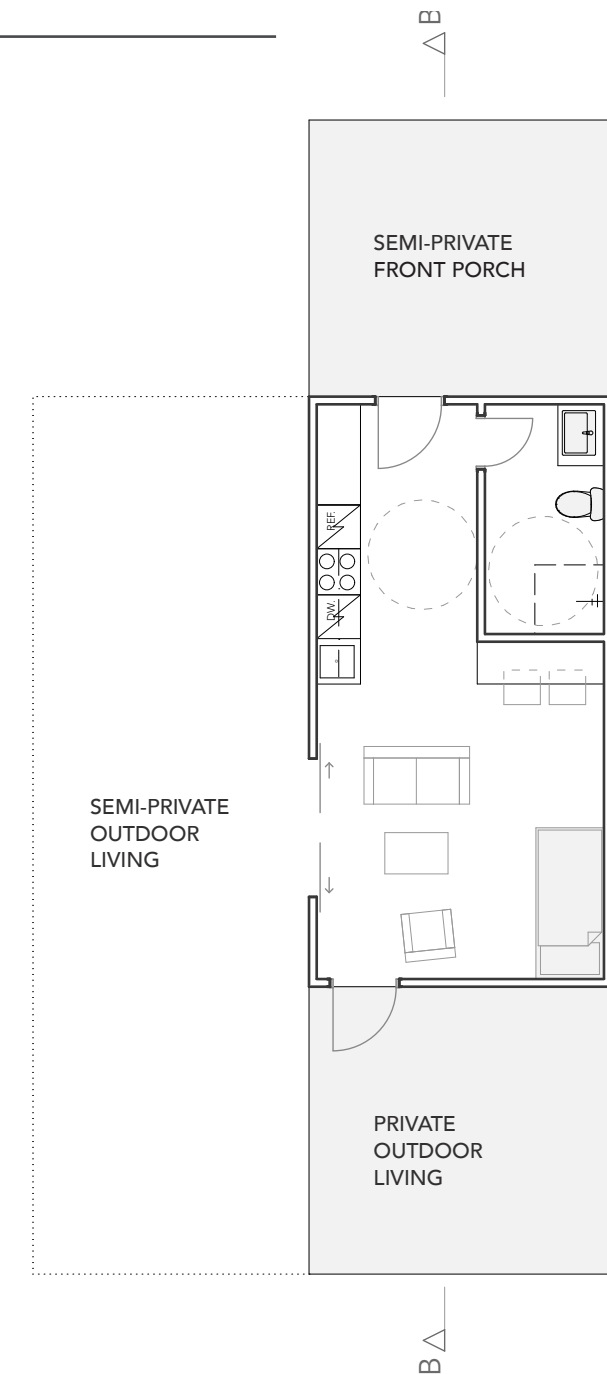
SCALE

1:200

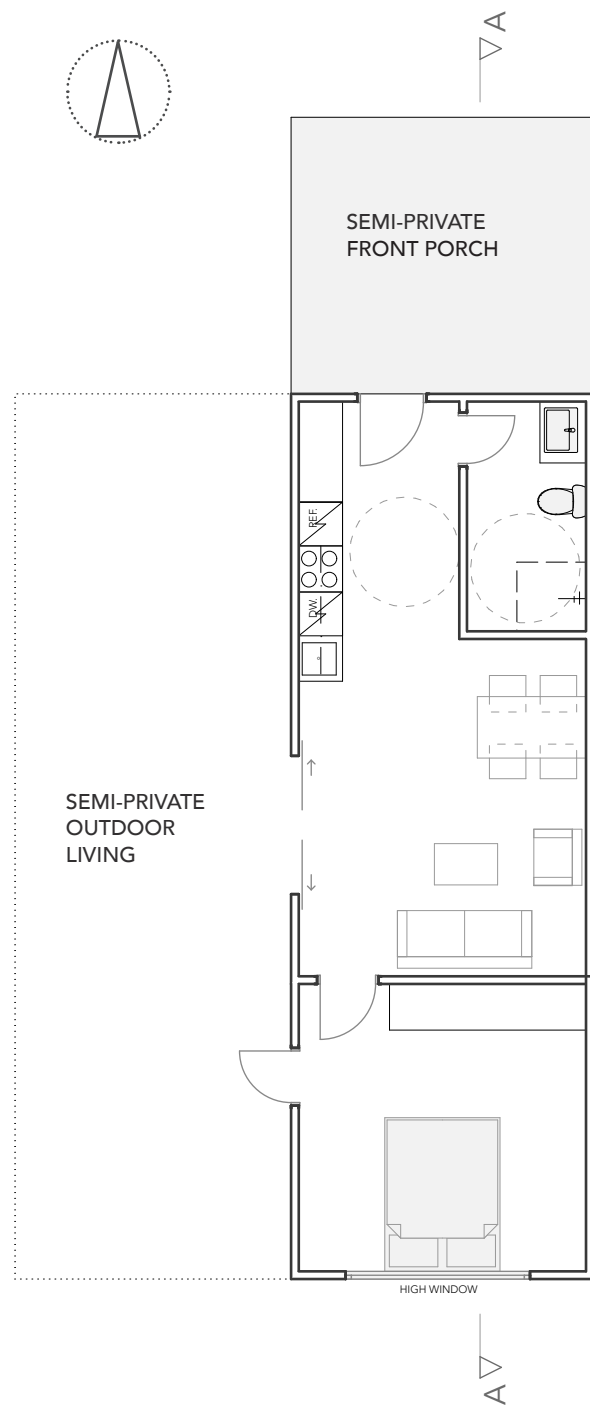


SECTION B - B

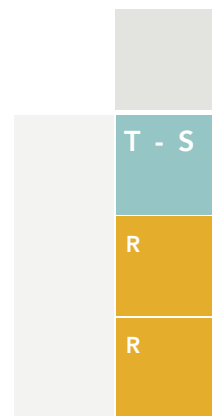
SCALE 1:100



FLOOR PLAN SCALE 1:100

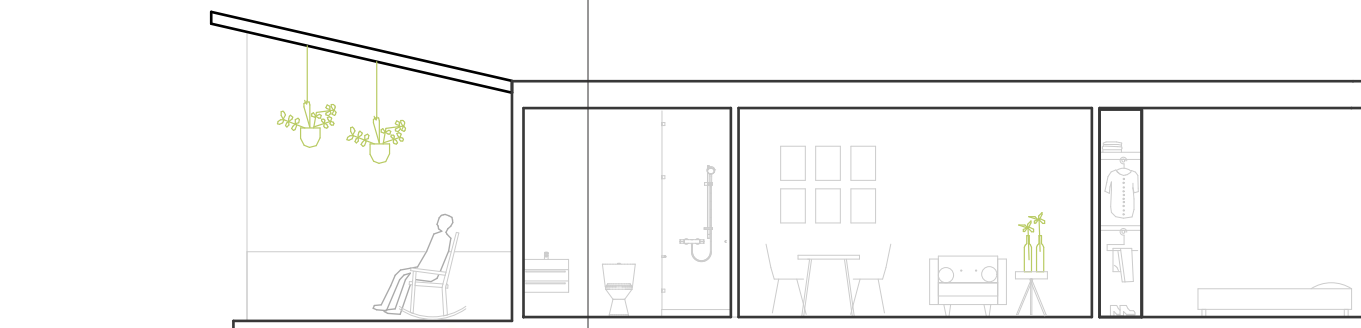
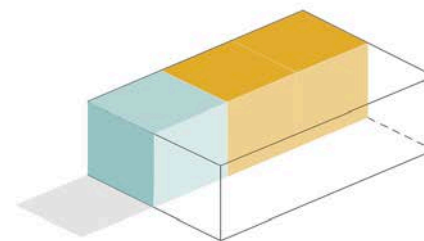


FLOOR PLAN SCALE 1:100



EXAMPLE CONFIGURATION 2

1 Bedroom+ living space
43.2m² (465 Sq.Ft.)



SECTION A - A SCALE 1:100



ELEVATION - SOUTH

SCALE 1:200



VIEW FROM THE SEMI-PRIVATE OUTDOOR LIVING SPACE IN BETWEEN THE MICRO-HOMES

INFILL MILL HOUSES

FAMILY LIFE - NEXT TO ORIGINAL MILL HOUSES



WHAT

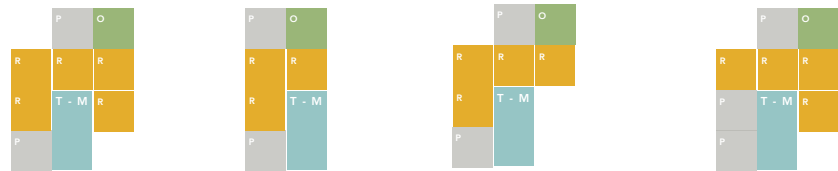
Infill homes among the traditional mill houses, blending in with the surroundings, while bringing a fresh new type of housing with using the modular building concept as a design tool to ensure flexible floor plan options for different family types.

TO WHOM

To families looking for a private homes, having outdoor living areas in a family friendly neighborhood but still being able to access common areas and public spaces around the housing area - living in a true mixed-use village instead of a suburban bedroom community.



POSSIBLE COMBINATIONS



EXAMPLE CONFIGURATIONS



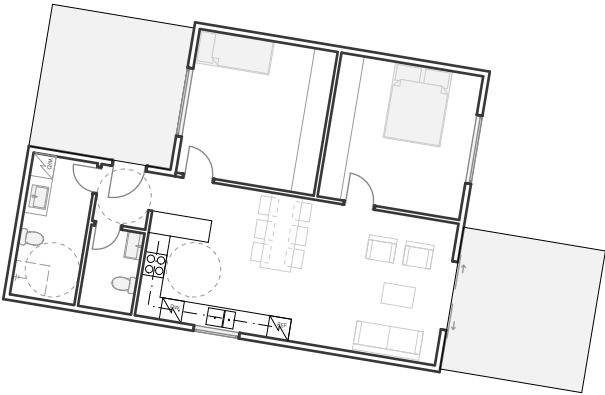
SCALE 1:4000



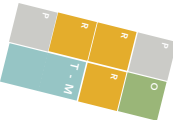
1ST FLOOR SCALE 1:200



3 Bedrooms 2 Baths
+ Kitchen & Dining & Living
Private outdoor living
100.8m²



1ST FLOOR SCALE 1:200



2 Bedrooms 2 Baths
+ Kitchen & Dining & Living
Private outdoor living
72m²



VIEW FROM THE SHARED STREET

5 REFLECTIONS

The 21st century mill village concept fulfills many of the glaring needs faced in the suburbs today as we adjust to changing lifestyles, family structures, and economies. It brings new life to these communities that were once the engine driving small towns in the Southeast, preserving the history of the area while making a better future for its residents. It provides a platform for quality urban life, away from the high land prices of the city centers, enhances community in rural areas, provides housing for young people looking to connect to their community, and creates a place for the 21st century worker to live and work in perfect harmony.

The logical next step for this thesis would be further developement of the modular building system and modular units. Due to the timeframe given to this project, going further into the technical part and streamlined construction of the modular units was not possible. Nevertheless, it would be interesting to study more about the cost of manufacturing these units to find out what the realistic cost of building and renting these units in the area would be.

The idea of designing a few modular units that can create multiple types of housing is interesting and I believe that there are places other than the ones introduced in this case study that could truly benefit from this kind of flexible building system, providing customizable building solutions for individuals or families at an affordable price. The modular building concept, when well designed, could also be a quick and affordable way of providing homes in catastrophe areas, temporary housing, or in other settings where affordable housing is needed for a lot of people in a short amount of time. Further development to the modular building units could be done so they can be easily added or removed after construction. This way the housing area could further adapt to changing family situations, or rent out space specifically tailored to the renter.

Another interesting concept to study further would be the remodeling and repurposing the old mill building, designing loft- apartments and common spaces. Continuing this thesis would allow to put more time into the architectural design of the concept - such as visuals of the buildings created with the modules, materials used etc.

Overall I believe the area is in need of a change to provide hope in the run down community of a future, and the mill provides the perfect venue for the community to get together and create their own future. I am very interested to see what the future of this interesting and inspiring community could be.

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images

IMAGE 1. LOCATION OF TEXTILE MILLS IN PIEDMONT REGION, 1931. B.F. Lemert, The Cotton Textile Industry of the Southern Appalachian Piedmont. Chapel Hill: University of North Carolina Press, 1933.

IMAGE 2. High Point, North Carolina - Housing. Homes In Company-Owned Mill Village Of Pickett Yarn Mills - High Point, North Carolina. 2011. Web. 30 Mar. 2017.

IMAGE 4. ORIGINAL MILL HOUSES. Tompkins, D. A. 1899. Cotton Mill, Commercial Features. Charlotte, NC. Published by the author.

IMAGE 4. ORIGINAL MILL HOUSES - FLOORPLANS & ELEVATIONS. Tompkins, D. A. 1899. Cotton Mill, Commercial Features. Charlotte, NC. Published by the author.

IMAGE 5. High Point, North Carolina - Housing. Homes In Company-Owned Mill Village Of Pickett Yarn Mills - High Point, North Carolina. 2011. Web. 30 Mar. 2017.

IMAGE 6. Changing family structures. Pew Research center. 2014. 2017. Print.

IMAGE 7. Newman, Oscar. 1972 Defensible Space: Crime Prevention Through Urban Design. Macmillan. New York.

Rest of the images and photos by the author.

kiitos

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